

Gastronomy Culture from the Neolithic Site of Çatalhöyük to 21st century**

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ABSTRACT

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Limited prehistoric evidence, such as written sources, provides insight into the lifestyles of ancient individuals and communities, the tools they used, and the perspectives they adopted. Anatolia offers an extraordinary wealth of cultural artifacts as a center of civilizations. Çatalhöyük stands out with its important cultural, artistic, agricultural, and culinary discoveries. This study aimed to identify the traces and reflections of Çatalhöyük's culinary culture in the 21st-century culinary culture. Therefore, it employed a qualitative research design to gather information about culinary culture, human behavior, and environmental dynamics. Participants were asked about their consumption of wild plants, fruit, and seeds and their cooking methods. The study was based on document review and the information obtained from locals to provide various perspectives on the consumption of food resources in Çatalhöyük. Significant findings have emerged, especially regarding the consumption of terebinths, acorns, and plums and their use in the kitchen.


1. Introduction

The emergence of settled life in villages based on food production, known as the Neolithic Revolution, undeniably contributed to forming the foundations of modern civilizations (Ozdogan, 2007). The Neolithic Age is considered a pivotal period in human civilization for its impact on advancing social and cultural knowledge. This period bore witness to radical changes in the way of living and livelihood of humanity. The vital pillar of these changes was the transition from temporary natural shelters to permanent settlements, from hunting and gathering to production and harvesting - i.e., agriculture and animal breeding. The emergence of village life based on food production and the establishment of the foundations of today's civilizations in this age attaches the Neolithic Age a particular importance (Kuijt, 2000; Martin-Merino, 2021; Olsson & Paik, 2016; Ozdogan, 2007). This is because grains were included in the human diet, hoes were used, the soil was plowed, plants were pruned, and animals were domesticated (Hendy *et al.*, 2018; Rosenstock *et al.*, 2019; Russell *et al.*, 2013). With the domestication of animals, foods such as milk, butter, cheese, oats (Hendy *et al.*, 2018; Russell *et al.*, 2013), olives, grapes, dates, beer, wine, and vinegar entered the human diet (Steward & Amerine, 1973).

Archaeological excavations in many parts of the world have unearthed small settlements dating from the Neolithic Age. Kosk Hoyuk, Cayonu, Hacilar, and Çatalhöyük in Anatolia are shown among the advanced settlements (Akurgal, 2014). Çatalhöyük bears the traces of the agricultural society between 7400 and 5500 BC (Mellaart, 1962; Hodder, 2006). Bogaard *et al.*, (2017) and Larsen *et al.*, (2015) emphasized the significant impact of domestication and agricultural activities in Neolithic Çatalhöyük on health, lifestyle, and sustainability. Çatalhöyük is therefore considered to have a rich culinary culture as it contributed to the age of agriculture and hunting that encouraged human nutrition (Fairbairn, 2005; Hodder, 2006; Mellaart, 1962). In addition, microscopic examinations by many researchers in Çatalhöyük have provided notable examples of botanical residues (Asouti & Fairbairn, 2003, 2003; Santiago-Marrero *et al.*, 2021). Ryan (2011) found evidence of wild plant use for construction materials and craft activities, particularly from wetlands. Santiago-Marrero *et al.*, (2021) expanded on this topic by identifying various geophytes and wild seasonal resources used for plant processing. Carpenter (1999) and Fairbairn *et al.*, (2002) contributed to this understanding by focusing on botanical residues of a specific structure and analyzing charred plant macro-residues to reveal complex patterns of plant resource exploitation. Research revealed that wild resources such as

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Research Paper



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fruits and nuts were consumed in addition to seasonal grain and legume cultivation (Bogaard *et al.*, 2009; Bogaard *et al.*, 2013; Bogaard *et al.*, 2017; Fairbairn, 2005; González Carretero *et al.*, 2017).

The revealed grains were predominantly emmer (*Triticum dicoccum*), common wheat (*Triticum aestivum*), Einkorn wheat (*Triticum monococcum*), and barley (*Hordeum vulgare*) (Anvari *et al.*, 2017; Bogaard *et al.*, 2017). In addition, bitter vetch (*Vicia Ervilia*), lentil (*Lens culinaris*), pea (*Pisum sativum*), and chickpea (*Cicer arietinum*) were found among the cultivated legumes (Bogaard *et al.*, 2017; Bogaard *et al.*, 2017; Hastorf, 1999; Stroud, 2016; Williams, 2005). Terebinth (*Pistacia* spp.) was the most common fruit in analyzing fruit and shelled foods. Wild plum (*Prunus* sp.), almond (*Amygdalus orientalis*), oak (*Quercus* spp.), hackberry (*Celtis* sp.); cornel (*Cornus mas*), Scirpus (*Scirpus* spp.), sheep's sorrel (*Rumex acetosella*), knotweed (*Polygonum cognatum*), hedge mustard (*Sisymbrium* sp.) and bitter vetch (*Vicia* sp.) were also found in excavations and analyses (Ağcabay & Duzenli, 2005; Asouti, 2005; Asouti & Hather, 2001; Ayala *et al.*, 2022; Fairbairn *et al.*, 2002; Filipović, 2014; Mükemre *et al.*, 2016). Harvesting, hunting, and animal breeding were among the primary sources of income of the Çatalhöyük people (Richards *et al.*, 2003). It was also found that the most consumed animals were sheep/goats, cattle, pigs, and deer (Hodder, 2006; Matrin & Aydınoglugil, 2003; Mellaart, 2003; Pearson *et al.*, 2015; Russell *et al.*, 2013). However, research showed that the Neolithic Çatalhöyük people's diet mainly comprised plants (Hedges & Reynard, 2007; DeNiro & Epstein, 1978). Consequently, the Neolithic community in Çatalhöyük had a significant nutritional diversity, with nutrients obtained from various sources such as meat from domesticated sheep and goats, wild cattle, small and large game, eggs, and waterfowl (Atalay & Hastorf, 2006; Russell *et al.*, 2009).

Çatalhöyük, the home of thousands of people from ancient to modern days, hosts a culinary culture with its roots for nearly 2000 years, as indicated above. At this point, a brief discussion of the concept of culture might help establish the foundations of the research topic. In addition to the richness of its meanings, the term 'culture' derives from the Latin word '*cultura*,' meaning *plantation in the field* (Katz & Weaver, 2003). Similarly, '*hars*' means culture in Arabic and means *harvesting and plantation* (Williams, 2005). While there is no clear-cut definition of culture, Braidwood (1948) defines culture as thoughts, beliefs, lifestyles, nutrition styles, tools that are used, and behaviors of individuals forming a community. There needs to be more data about prehistoric communities besides written texts, tools and equipment, settlements, and material culture items that can help them be identified (Braidwood, 1948). It is suggested that these concrete elements that can help identify these communities occur thanks to the cognitive development and knowledge accumulation of the individuals who form the community

(Uhri, 2011). Transferring the culture enriched and developed with the accumulated knowledge to the next generation indicates cultural sustainability. The culture formed is thus constantly learned, developed, used, and transferred between generations. To this end, with plentiful data from the Çatalhöyük site in BC 7400-5200 and the concept of the transferability and intergenerationality of culture, this study tackled the relationship between Turkish culinary culture as the home of the Central Anatolian culture.

This study aimed to reveal the culinary culture of Çatalhöyük, one of the most important settlements in the world, and explore its implications in the 21st century. In this context, document analyses, observations, and interviews were utilized. As a result of the study, essential themes were obtained for the literature. The study mainly intended to examine the impact of Çatalhöyük's culinary culture on 21st-century Turkish cuisine. The following research question was addressed in this regard:

How did Çatalhöyük's culinary culture heritage influence 21st-century society's culinary culture and habits in Türkiye's Çatalhöyük region?

The study intended to understand Çatalhöyük's rich gastronomic heritage, discover this ancient civilization's culinary culture, and unearth its past traces based on archaeological data. Additionally, it emphasized the impact of Çatalhöyük's culinary culture on the development of 21st-century Turkish cuisine. In this respect, the study contributes to the literature on historical aspects of food and addresses the cultural significance of culinary traditions in connecting diverse generations and cultures. As a result, exploring the past of Anatolian culinary culture provides a deeper insight into the role of food in shaping a society's culinary identity and promoting cultural interactions.

2. Method

The study employed a qualitative research design to explore the cultural habits of contemporary society in today's Çatalhöyük region. This methodological approach intended to understand the multifaceted culinary culture and human behavior. In qualitative research, the researcher uses qualitative data collection methods such as observation, interview, and document review and attempts to reveal and interpret the perceptions and phenomena in the most realistic and integrated manner in the natural environment (Awasthy, 2019; Grossoehme, 2014; Jackson *et al.*, 2007; Polkinghorne, 2005; Yıldırım & Simsek, 2016). This method supports the emergence of themes and findings through rigorous analysis, providing the opportunity for a comprehensive and in-depth understanding of human experiences (Barrett & Twycross, 2018). Quality checks in qualitative research are achieved by focusing on factors, such as the use of language, empathy for participants, contextual and multifaceted interpretations, and the integration of nonlinear causal

processes (Stiles, 1993). Interviews were therefore utilized as a research instrument to reveal the impact of Çatalhöyük's culinary culture on the culinary culture of the 21st century within the surrounding settlements.

Two qualitative research designs, "case study" and "documentation," deemed appropriate to the scope of the study, were employed to enhance reliability. A case study is an empirical research method used with evidence or data sources when working on a current phenomenon in its real-life environment and examining the situation in a multifaceted, systematic, and in-depth manner (Merriam, 1998; Nadel, 2016; Uhri, 2011; Yin, 1984). A case study design was adopted to evaluate the research data holistically to focus on how the relevant case influenced the respondents and understand the relevant changes and processes. Like a detailed plan in architecture, a case study is one of the systematic designs that include stages such as data acquisition, organization of the collected data, interpretation, and obtaining research findings (Aytacı, 2012; Vural & Cenkseven, 2005).

Document review is an effective strategy for enhancing knowledge about the researched phenomena through critically analyzing and evaluating the subject-related materials. It also broadens the researcher's perspectives before the fieldwork. Thus, during the semi-structured interview, forms were prepared, and written and visual (photographs) document analyses were conducted. Another advantage of this is that it improves the reliability of the findings (Uhri, 2011).

The following actions were taken to ensure the reliability of the study:

- Before the interview, five participants were asked about what they understood. Additionally, the visuals used in the interview were shown to the participants. In line with the feedback received, the interview questions were revised. Moreover, the necessary visuals were changed, and additions were made.
- The interview questions were sent to five experts to confirm their suitability for the content and the topics intended to be reached (Creswell, 2013)
- The tables and comments written in light of the data from the participants were presented to a field expert to confirm their suitability (Lincoln & Guba, 1985).
- A voice recorder was used during interviews to ensure the complete data recording for the transcribing process.

The research population was determined as the people dwelling in settlements within a 10-kilometer radius centered on the Çatalhöyük region. Data were obtained from 35 residents through semi-structured interview forms prepared by considering the archaeobotanical excavation results of Çatalhöyük and document analysis of written and visual (photograph) materials between 23-29 October 2017. Snowball sampling was employed for the study. Thirty-five participants were included in the study after the

responses from the local government and residents of the settlement (Patton, 1987). The criterion for participating in the study was limited to residency in the settlement for more than 50 years. During the semi-structured interviews, participants were asked how they consumed the seeds, fruit, and plants used in Çatalhöyük.

Content analysis was employed to analyze the texts included in documents and interviews. In this context, Strauss and Corbin's (1990) model was adopted: coding, identification, naming, and identifying categorical characteristics. The pseudonyms from P1 to P35 were used to anonymize the participants' identities.

3. Findings

An investigation of plant residues, seeds, and charred remains uncovered during the archaeobotanical studies in Çatalhöyük, the most important settlement of Central Anatolia, provided detailed information about the nutritional habits of the residents in the region. These studies have provided a perspective on Central Anatolia from approximately 9,400 years ago to about 8,000 years ago. This phase of the study aimed to demonstrate how the plants, seeds, and fruit consumed in Çatalhöyük, one of the oldest Anatolian Neolithic cultures, were used in the contemporary Çatalhöyük culinary culture and mirror their reflections on the 21st century. Participants were asked the following questions to illuminate the results:

- (1) What wild plants/fruit do you use in this region?
- (2) What do you use these plant/fruit species for?
- (3) What are the crops (agricultural products) you use in this region?

The wild plants used by the respondents according to the information in Table 1 are as follows: mustard (*Brassica juncea*), knotweed (*Polygonum c.*), sheep's sorrel (*Rumex acetosella*), bitter vetch (*Vicia sp*), bog bulrush (*Scirpus mucronatus*), white goosefoot (*Chenopodium album*), spear thistle (*Cirsium vulgare*). Also, wild fruits and seeds are common hawthorn (*Crataegus monogyna*), terebinth (*Pistacia terebinthus*), acorn (*Quercus robur*), cornel (*Cornus mas*), bird cherry (*Prunus padus*), almond (*Prunus dulcis*) and cherry plum (*Prunus divaricata*).

Table 1 illustrates the areas of use of the plants, fruit, and agricultural products based on participants' responses. Detailed information about their daily use is explained afterward.

Findings indicated that participants used mustard (*Brassica juncea* known as 'sıyrma' in colloquial language) as a main dish ingredient. Pesticides are usually sprayed onto these plants since they harm the other plants in agricultural areas. Participants (P9 and P12) explained how mustard was consumed as follows:

Mustard is very common here. I remember my parents cooking it. We would pick it when it was fresh, wash it, boil it, then strain it and fry it in oil for a while. Nowadays, no

Table 1. Area of Use of Wild Plants, Fruit, Seeds, and Agricultural Products

Plant, Fruit, and Agricultural Products		Area of Use			
	Local Name	Scientific Name	For Human	For Animal	Construction Material
Wild Plants	Mustard	<i>Brassica juncea</i>	✓		
	Knotweed	<i>Polygonum c.</i>	✓		
	Kadin kizi parmagi	---	✓		
	Sheep's sorrel	<i>Rumex acetosella</i>	✓	✓	
	Bitter vetch	<i>Vicia sp</i>	✓	✓	
	Bog bulrush	<i>Scirpus mucronatus</i>		✓	✓
	White goosefoot	<i>Chenopodium album</i>	✓		
Used Wild Fruit / Seeds	Spear thistle	<i>Cirsium vulgare</i>	✓		
	Common hawthorn	<i>Crataegus monogyna</i>	✓		
	Terebinth	<i>Pistacia terebinthus</i>	✓		
	Acorn	<i>Quercus robur</i>	✓	✓	
	Cornel	<i>Cornus mas</i>	✓		
	Bird cherry	<i>Prunus padus</i>	✓		
	Wild pear	---	✓		
	Almond	<i>Prunus dulcis</i>	✓		
	Cherry plum	<i>Prunus divaricata</i>	✓		
	Barley	<i>Hordeum vulgare</i>	✓	✓	
Agricultural Products	Wheat	<i>Triticum aestivum</i>	✓		
	Rye	<i>Secale cereale</i>	✓		
	Tomato	<i>S. lycopersicum</i>	✓		
	Bean	<i>Phaseolus vulgaris</i>	✓		
	Vetch	<i>Vicia sativa</i>		✓	
	Watermelon	<i>Citrullus lanatus</i>	✓		
	Melon	<i>Cucumis melo</i>	✓		
	Lentil	<i>Lens culinaris</i>	✓		
	Chickpea	<i>Cicer arietinum</i>	✓		
	Sugar beet	<i>Beta vulgaris</i>	✓		
Eggplant	<i>Solanum melongena</i>	✓			
Cucumber	<i>Cucumis sativus</i>	✓			

Source: Created by the authors.

one eats it. If it grows in the fields, it is either dried with pesticides or uprooted by hand.

We would eat it when we were young. Young people today do not know much about it. The bottom of the leaf mustard is fresh. We would peel the fresh part and eat it.

Participants stated they consumed knotweed (*Polygonum c.*) in agricultural fields or gardens. Participants coded P2, P22, and P32 explained their consumption of knotweed as follows:

It is edible, my dear. As children, we ate it a lot when it was fresh, but we did not cook it.

It grew nearby. We would eat it fresh in the spring. It had a sweet taste. I also know that its roots are used in industrial paint.

It would grow spontaneously in the fields around here. As children, we would pick and eat it at the fields. It tasted sweet. They do not use it in dishes around here.

P1, P2, and P23 explained their use of bitter vetch (*Vicia sp* or known as *fasil/fink* in the public language) as a snack, a dish ingredient when their seeds are fresh, or animal feed. Besides, they said they snacked on fresh kadin kizi parmagi, similar to bitter vetch.

When it is fresh, it is like green beans. We would eat it like fresh chickpeas. We would give it to our big and small cattle when it lost its freshness. We call it 'fasil' or 'fink' here.

When fresh, it resembles peas. We also would cook and eat them like peas. When we cooked it, we would add beef or chicken.

It is called 'fasil' around here. It grows spontaneously in the fields. We would give it to our big and small cattle. We would pick and eat the seeds when fresh. It has pea-like seeds. There is another similar plant called 'kadin kizi parmagi' around here. We would also eat its seeds when fresh. It tastes a little sweeter than 'fasil.'

It was further revealed that participants cooked fresh sheep's sorrel (*Rumex acetosella*) and rarely used it as animal feed. Concerning this, participants (P7, P9, and P11) remarked the following:

Sheep's sorrel grows spontaneously in our lands. My mom would pick it fresh. Then, she would boil it before stir-frying it with butter. We would add yogurt and eat it.

We call it 'eksimek' around here. My mom would cook it. We would also use it as animal feed.

My mom would pick sheep's sorrel fresh and cook it with tomatoes. She would also put some bulgur in it.

P1, P2, and P23 indicated using bog bulrush (*Scirpus mucronatus*) as a construction material (for the roofs of their homes and animal barns) and animal feed. Excerpts illustrating this are given below.

Figure 1. The house constructed with bog bulrush.



Source: Created by the authors.

We would use it a lot. We would build a 'pergola' to sit in during the summers. We call it 'kamis' around here. Nowadays, houses are made of concrete. We would make the ceilings of our homes with these. We would cover it with mud. Also, shepherds would temporarily build a tent for themselves in the mountains, which we called 'huv.' We also would use it as animal feed when fresh.

Around here, we call it 'kamis.' When there was plenty of water in the river, it would come out in large quantities. Now, the river has dried up, and there is no more. Those who need it would bring it from neighboring villages. We would make the ceilings of houses and animal barns with these reeds. We also used them to build the garden walls of houses.

It is understood that the participants consumed white goosefoot (*Chenopodium album*) as an ingredient of pastries, while they ate spear thistle (*Cirsium vulgare*) like fresh cucumber after peeling it. Further participant remarks are presented below:

White goosefoot is abundant around here. We pick it when fresh, roast it, and use it as an ingredient for "otlu borek" (a pastry with herbs).

We would not eat mustard. We would even uproot it to prevent harm to the vegetable gardens. However, there is 'kangal otu' (spear thistle) that resembles it. We would peel its fresh part and eat it.

Most participants commented that they used common hawthorn (*Crataegus monogyna*) dry as flavoring in pickles. P26's remarks hint at its consumption style.

We would buy dried hawthorn seeds from the mountain villagers and use them to flavor our pickles.

Participants in the study called terebinth (*Pistacia terebinthus*) 'citlik' in the public language. They use it for various purposes in the kitchen. P7, P15, P16, and P24

stated that they used terebinth as a snack. One quote was cited due to the similarity of remarks regarding its use:

Mountain villagers would bring dried terebinth. We snacked on them with dried grapes.

Other participants, P8, P29, and P33, stated that they ground dried terebinth seeds in a hand mill and used them as spices.

We would grind the dried terebinth seeds in hand mills without turning them into powder. After cooking bulgur, we would sprinkle them on it like spices and eat it.

P4, P16, and P32 declared that while consuming the snack they locally called "kavurga," (roasted grains) they roasted terebinth seeds in oil and poured them on it.

We would make 'kavurga,' my dear. We would boil bulgur in some water. After draining, we would sun-dry it. We would put clarified butter, dried wheat, and salt in a large pot and cover the lid. After a while, it would start popping like corn. We would eat them all after roasting. We would also cook it with milk. After boiling it with milk, we would put it in containers for winter consumption. In winter, we would roast it on a cast iron without oil, roast hemp, and terebinth seeds, sprinkle them on top, and eat them like that.

We made two types of 'kavurga' in old times. We either boiled it with water or milk. My mom would cook it with milk. She would boil bulgur with milk quickly, then wait for the bulgur to absorb the milk completely. She would put it in clay jars and keep it in the pantry for winter consumption. She would roast it in a bowl on a 'kemre' (cow dung) fire in winter. She would not add the butter to the bowl because milk fat in the bulgur would be enough. We would sprinkle a bit of roasted cannabis and terebinth seeds over and eat it.

It was further reported that terebinth seeds are added to the product, locally called "yagli dugu," to provide oil. P6, P30, and P34 remarked the following:

We would buy terebinth when we wanted to make 'yagli dugu'. We would boil bulgur in water before sun-drying it. After it dried completely, we would grind bulgur with cannabis, pumpkin seed, and terebinth roasted beforehand. There is a hole in the middle of hand mills. We would put bulgur into this hole, and the bigger ones were automatically out. We would retake the bigger ones and continue to grind them until they became powder-like flour. We would add terebinth to the 'dugu' especially to make it oily, which is why we would call it 'yagli dugu.' As a child, we would eat it with sugar or grape molasses.

In the past, once a week, we would gather with friends and have 'yagli dugu.' After boiling the bulgur well, we would sun-dry it. Then, we would thoroughly beat the bulgur with the cannabis and terebinth seeds that we had previously roasted in hand mills. We would pound the grains so that they would not slip. We would serve it with tea in the

evenings when guests came. It is not made as often anymore because there is so much to eat.

Acorn (*Quercus robur*) is called 'pelit' in Çatalhöyük and is consumed as a fresh or dried snack. It is also consumed as a side dish. They are also used as animal feed. P9, P20, and P28 stated the following about this:

We would cook bulgur dish. After peeling the outer shell of "pelit," we would cut it into pieces for a topper of bulgur dish or eat it as a whole as a side dish. I have heard that shepherds would eat raw acorns in the mountains. It is believed to give strength and fitness.

We would cook bulgur dish. As a topper for this meal, we would peel acorns off and eat them together. In nearby villages, villagers still roast pelit and eat it as a topper for bulgur. We also feed it to our cattle.

We call it pelit. We would not pick it on purpose. We would eat it when we saw it in the mountains. We would cook it on the embers in case of a bitter taste.

Cornel (*Cornus mas*) is the main ingredient for jam, marmalade, and sherbet. In contrast, bird cherry (*Prunus padus*) is only for jams. The views and experiences of P5 and P7 of cornel and bird cherries are provided below.

They do not grow here, but if they bring them to the farmer's market, we would buy and make jam and marmalade.

We have it in our garden, and it bears fruit every year. We make marmalade and sherbet. We sometimes eat it when fresh.

Concerning the use of wild pears, P15, P27, and P35 shared the following remarks:

In the past, mountain villagers would bring wild pear flour. We would barter for a pinch of sheep wool. We would consume it like roasted chickpea powder.

My dear, mountain dwellers would bring it. We call it 'kavut flour' around here. After drying the wild pears, they would grind them in hand mills and turn them into flour. It tasted sweet. As children, we would add sugar or molasses and eat it that way.

P9, P11, and P23 remarked the following about almonds (*Prunus dulcis*):

I remember mountain dwellers bringing these bitter almonds. We would cook them on the embers to remove the bitterness.

It does not grow in the plains, my dear. Mountain dwellers would bring it to the village. As children, we would break the shell and eat it like 'cemevir.'

As a child, I would go to the mountains to herd sheep with my father. We would consume it whenever we came across it. It would taste bitter. We would roast it on the embers to remove the bitterness.

Cherry plums (*Prunus divaricata*) are used for different purposes in the kitchen. They are used with dried raisins to make snacks, competes, lentil soup, and rennet, and to add sourness to leek dishes. Relevant P5, P11, and P35 excerpts regarding cherry plums are presented below.

We call it 'dag erigi' around here. While boiling molasses, we would add it to give sourness. Also, my mother put it in leek dishes and lentil soup to add sourness.

They do not grow in the plains, my dear. Mountain dwellers would bring it, and we would buy from them. We would make compotes to eat with rice pilaf. We would make compotes using only wild plums or mixing them with raisins if they were too sour. We would also put the sourest ones in leek dishes or lentil soups. We also would make rennet using wild plums. We would take a piece of lamb tripe, salt it, and sun-dry it. Then, we would mix the dried wild plums and dried lamb tripe with some water, put them in a small clay jar, and keep it in the cellar with its mouth closed for 20-25 days. Then, we would use it to ferment cheese.

We call it 'yonuz erigi' around here. I did not use it, but I remember my mother using it. She would make its compote, add it to leek dishes for sourness, and ferment cheese. She would take lamb tripe, salt them, and dry them well. We called these pieces 'salkanak'. She would then mix dried 'yonuz erigi' and a piece of 'salkanak' with water in a clay bowl and leave it to rest. After letting it sit for two or three weeks, she would use it for cheese fermentation.

Content analysis revealed differences in obtaining wild plants, fruits, and seeds. Relevant information is displayed in Table 2.

Table 2. Picking Methods of Wild Plants, Fruit, and Seeds

	Local name	Purchase/Barter	Obtained from natural habitat
Wild Plants	Mustard		✓
	Knotweed		✓
	Kadin kizi		✓
	parmagi		✓
	Sheep's sorrel		✓
	Bitter vetch		✓
	Bog bulrush		✓
	White goosefoot		✓
	Spear thistle		✓
	Common hawthorn	✓	
Terebinth	✓	✓	
Wild Fruit / Seeds	Acorn	✓	✓
	Cornel	✓	✓
	Bird cherry	✓	
	Wild pear	✓	
	Almond	✓	✓
	Cherry plum	✓	

Source: Created by the authors.

Table 2 demonstrates that all wild plants were collected from their natural habitats. However, wild fruits and seeds such as common hawthorn, bird cherry, wild pear, and cherry plum are purchased or bartered. Additionally, terebinths, acorns, cornels, and almonds are acquired through purchase/barter and natural habitat collection.

Food preservation methods are presented in Table 3.

Table 3. Food Preservation Methods

Food Preservation Methods	Curing Below-ground burial Drying Preservation with tallow
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Source: Created by the authors.

Participants coded P15, P26 and P33 stated that they use the salting method very often. However, it is also reported that after the widespread presence of fridges and freezers, this method lost its popularity and practicality. Participants coded P33 explain this as follows.

In the past, not everyone had a refrigerator at home. In those days, when we slaughtered cattle, we would cure the meat to preserve it. We would divide meat into filets and bone-in beef. Then, we would put them in two separate large containers. We would place them on the side of the cellar that does not get sunlight. We would take out enough meat to use in the winter. We would keep it in water for a few days to remove the salt. We would then use it in our dishes.

Participants stated that they applied the below-ground burial method in two different ways. The first was to put clay pots below the ground to keep the food cold, while the second was to bury the food directly in the ground. They exemplified this by stating that planting acorns into the soil provided sweetness and freshness. Further remarks by P7 and P18 are presented below.

After putting crops, dried legumes, or other food into the jars, we would dig up a side of the house or cellar that was not exposed to sunlight and bury the jars with the mouth visible.

Our kitchens were outside the house in old times. We would put the pots on one side of the kitchen. Some would bury jars in their kitchens with their mouths visible. This would prevent direct solar exposure and earthenware jars from overheating.

P5, P13, and P29 shared the following remarks about the below-ground burial method for acorns.

Acorns are sometimes bitter. We then dig the ground and bury acorns for flavoring. This flavors and prevents them from drying out. We consume them by cooking on the embers in winter.

Participants said they used the drying method, especially when making milky roasted wheat. Excerpts from P17, P29, and P35 concerning the relevant method are presented below.

We would make milky roasted bulgur wheat. First, we would boil bulgur with milk and then wait for the milk to drain. We would then sun-dry it and keep it in clay pots for winter consumption.

Last, the views of P5, P14, P22 about preserving with the tallow method are provided in detail below.

We would make sheep yogurt and store it in clay pots. We would put some tallow at the top to preserve it. We would cover the mouth of the pot with a suitable container to keep the yogurt fresh for a long time.

Those with a lot of yogurt would put it in jars, and those with little would put it in pots. When pouring the tallow over the yogurt, make sure the tallow is not too hot. Otherwise, it will spoil before winter.

The consumption and preservation methods of ancient plants, seeds, and fruit by Çatalhöyük locals in the 21st century were presented. Table 4 illustrates the cooking methods for the foods in Çatalhöyük.

Table 4. Cooking Methods

Cooking Methods	Dry heat cooking methods
	Cooking in tandoori ovens
	Cooking in kilns
	Cooking on cast iron
	Cooking on the embers
	Poaching method

Source: Created by the authors.

Participants (P1, P23, and P29) expressed their opinions below about cooking in tandoori ovens and kilns:

We cook whole lamb, chicken, and food in tandoori ovens. My father had huge agricultural fields. Sometimes, he would slaughter lambs for employees. After cleansing the lamb, we would put it in the tandoori oven and let it simmer. Before taking it out, we would sprinkle salt and spices.

Tandoori bread is vital here. Everyone makes tandoori bread occasionally. Also, tandoori pastry is tasty, with plenty of fat and herbs. Dinner is cooked in the remaining embers after baking the bread.

We also use kilns. They are usually located in the yard. Kilns and tandoori ovens are made of wet clay. We bake borek and various pastries in kilns.

Excerpts of P11, P14, and P30 about cooking on cast iron are provided below:

We would boil the raw wheat with milk for a while. After taking it off the fire, we would leave it to absorb the milk. Then, we would spread it on a tray and dry it in the sun. We would place a cast iron on the stove and roast the raw wheat we had dried with a handful of cow dung ash. Cow dung ash prevents it from roasting too much. After roasting, we would clean the ash and eat it.

We would boil wheat with water and drain the remaining water. We would then roast the wheat on the stove with clarified butter and a little salt. We would put the pink ones aside and eat them.

We would boil milk. We would add wheat to boiled milk and wait for it to absorb it. We would then sun-dry it. We would fill some of it into jars for winter consumption. We also would roast some part with the cow dung ashes and eat it. We call this 'kavurga.'

P17 and P23 said they cooked acorns and almonds on the embers. Relevant remarks are presented below:

When acorns were bitter, we would bury them in the ground. After digging them up, we would peel them, eat them, or cook them a little in the embers and eat them like chestnuts.

We would eat it if we came across it in the mountains. My father fed us with it to give us energy.

It is manifest that the participants used the poaching method, especially when making “yagli dugu,” “kavurga,” and cooking various herbs. Relevant quotes by P7 and P14 are given below:

We would cook 'yagli dugu', my dear. We would boil wheat in big cauldrons. Then, we would dry it and grind it in mills.

Sheep's sorrel grows spontaneously in our fields. My mother would pick it up when fresh and boil it in water. Then, she would drain the water and fry it thoroughly with clarified butter. We would consume it with yogurt.

4. Conclusions

This study aimed to determine the effects on the 21st century and cultural traces of the culinary culture of Çatalhöyük, a historically significant settlement. Data were collected through document review, observations, and interviews in this context. Çatalhöyük's archaeobotanical and archaeozoological findings and the reports prepared accordingly were initially examined within the context of document review. Observations included visits to the Anatolian Civilizations Museum, Konya Archaeological Museum, and the Çatalhöyük excavation site. After document reviews and observations, a semi-structured interview form was prepared with the data obtained. With this form, the interviews were conducted with the local people in the region.

Valuable information about food sources and dietary habits was obtained from the document review on Çatalhöyük, one of the ancient Neolithic cultures of Central Anatolia. The archaeobotanical excavations concluded that food sources comprised cereals, legumes, wild plants, fruit, and seeds grown in the region (Ağcabay & Duzenli, 2005; Anvari *et al.*, 2017; Asouti, 2005; Asouti & Hather, 2001; Bogaard *et al.*, 2017; Bogaard *et al.*, 2013; Fairbairn *et al.*, 2002; Filipović, 2014; Hastorf, 1999; Stroud, 2016; Williams, 2005). Archaeozoological excavations

suggested that diets were based on sheep/goat meat, followed by cattle and other wild animals (Hodder, 2006; Matrin & Aydınoglugil, 2003; Mellaart, 2003; Pearson *et al.*, 2015; Russell *et al.*, 2013).

It is established that charred macro-botanical and calcified plant residues were found in the archaeobotanical excavations in Çatalhöyük (Fairbairn *et al.*, 2002; Filipovic, 2012). Despite the information on how the wild plants, fruit, and seeds originating these residues were obtained, more detailed data on their consumption was needed. One of the significant conclusions of this study was to provide different perspectives on how these food sources might have been consumed in Çatalhöyük based on the information given by the locals about these food sources.

Interview data indicated the use of mustard, knotweed, kadin kizi parmagi, and spear thistle as wild plants and common hawthorn, terebinth, cornel, bird cherry, wild pear, almond, and cherry plum as wild fruit and seeds. It was also revealed that sheep's sorrel, bitter vetch, and acorn were used as human food and animal feed. It was further found that bog bulrush was used as animal feed and construction material.

Information on the consumption of terebinths, acorns, and cherry plums, discovered to have different consumption patterns in the kitchen, was handled in more detail since it provided a different perspective on consuming these food sources at Çatalhöyük. The consumption patterns of these three food sources might be summarized as follows.

Terebinth:

- Sundried terebinth is consumed as a snack in any meal.
- Sundried terebinths beaten in mortars are sprinkled over plain bulgur pilaf like a spice.
- It is commonly used to yield oil in producing the local product called by the locals “yagli dugu.”
- Roasted terebinth is added on top of “kavurga” to flavor.

Acorn:

- If it is bitter when fresh, it is roasted on the embers. If it is sweet, it is consumed after the skin is peeled. In addition, it is consumed by roasting in the oven in the winter months.
- After the below-ground burial, the flavored acorns are roasted on the embers or consumed directly as a side dish to plain bulgur pilaf. It is also eaten by breaking it into pieces and adding it to plain bulgur pilaf.

Cherry plum:

- Sundried cherry plums are consumed as a snack alongside raisins.

- Cherry plum compotes are known to be consumed alongside rice or post-meals.
- It is added to lentil soups, leeks, and rarely meat dishes to flavor.

The most interesting consumption of cherry plums was revealed as follows:

- A cured and dried piece of lamb tripe, called “salkanak” by the locals, and dried cherry plums are placed in a pot and fermented for 20-25 days by adding water and some salt. The resulting liquid is used in rennet.

The presence of acorns in Çatalhöyük homes suggests that the people of Çatalhöyük might have used acid and yogurt fermentation with acorns. Additionally, Çatalhöyük locals were considered to have used the rennet obtained with cherry plums and “salkanak.” Formed approximately 8000 years ago, the Çatalhöyük culinary culture adopted new culinary techniques from the cultures it encountered while transferred from generation to generation, causing techniques such as fermentation with cherry plums and “salkanak” to remain in the background and fall into oblivion over time. It was stated that this technique is no longer used due to the ease of fermentation methods and the ready availability of fermentation cultures.

Furthermore, interviews with the locals demonstrated curing, below-ground burial, drying, and tallow as food preservation methods. It is also known that Çatalhöyük locals used drying methods in their daily lives. Although curing and below-ground burial methods might have been used, no such findings were found during the excavations. The analysis of the remains of earthenware jars unearthed during archaeological excavations showed that animal fat and milk residues were found in some of the containers (Evershed *et al.*, 2002; Hendy *et al.*, 2018; Salque *et al.*, 2012). This conjures up whether they used tallow in their dishes or yogurt preservation, as the locals did.

Çatalhöyük locals, whose main product was grain, were known to cook with clay pots in the early days of settlement due to a lack of heat-resistant containers (Bober, 2001; Yalman, 2006). In addition, they are considered to have used the poaching method and dry heat cooking methods, such as cooking in the kiln and on the embers. The cooking methods used in Çatalhöyük and the modern-day locals show certain similarities.

Limitations and themes for further research

The current study on Çatalhöyük’s culinary culture provides valuable data about the ancient Neolithic culture’s food sources, dietary habits, and consumption patterns. However, the study acknowledges some limitations. Firstly, the findings are grounded on a limited number of interviews with the locals in the Çatalhöyük region, which might need to be revised to achieve generalizability. Additionally, a significant temporal gap exists between the ancient settlement and the 21st century. Cultural and

societal shifts over thousands of years might have influenced the continuity and preservation of culinary traditions, potentially leading to differences and deviations from original practices.

Based on the findings, several themes emerged for future research. These recommendations help to explore Çatalhöyük’s culinary culture and food sources in greater detail, deepening our understanding of this subject. First, future researchers could conduct thorough investigations into the socio-cultural aspects of Çatalhöyük’s culinary culture. Such studies might evaluate the role of food in rituals and celebrations during the Neolithic era, as well as its implications for identity formation, gender roles, and cultural changes in contemporary Anatolian society. Secondly, researchers might attempt to reshape ancient recipes based on existing archaeological data and information gathered from interviews with locals. This reconceptualization could provide valuable insights into Çatalhöyük’s flavors, combinations, and cooking methods. Lastly, by conducting comparative studies, prospective researchers might explore the similarities and differences between the culinary cultures of Neolithic Çatalhöyük and other settlements in the region based on archaeological findings. This approach might allow for the deep exploration of culinary cultural interactions between different regional settlements.

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INFO PAGEGastronomy Culture from the Neolithic Site of Çatalhöyük to 21st century**Abstract**

Limited prehistoric evidence, such as written sources, provides insight into the lifestyles of ancient individuals and communities, the tools they used, and the perspectives they adopted. Anatolia offers an extraordinary wealth of cultural artifacts as a center of civilizations. Çatalhöyük stands out with its important cultural, artistic, agricultural, and culinary discoveries. This study aimed to identify the traces and reflections of Çatalhöyük's culinary culture in the 21st-century culinary culture. Therefore, it employed a qualitative research design to gather information about culinary culture, human behavior, and environmental dynamics. Participants were asked about their consumption of wild plants, fruit, and seeds and their cooking methods. The study was based on document review and the information obtained from locals to provide various perspectives on the consumption of food resources in Çatalhöyük. Significant findings have emerged, especially regarding the consumption of terebinths, acorns, and plums and their use in the kitchen.

Keywords: History of gastronomy, Culinary culture, Nutritional habits, Çatalhöyük.

Authors

Full Name	Author contribution roles	Contribution rate
Mustafa Aksoy:	Conceptualism, Methodology, Investigation, Data Curation, Writing - Original Draft, Writing - Review & Editing	50%
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