# RECIPIES OF OLD TASTES WITH EINKORN AND EMMER WHEAT

## EINKORN VE EMMER BUĞDAYI İLE ESKİ TADLAR İÇEREN YEMEK TARİFLERİ

To the precious memory of Robert J. and Linda Braidwood... They will live in our hearts, and we will continue to do research on the path they laid down for us.

*Füsun ERTUĞ

**Key words:** Einkorn wheat, Emmer wheat, *Triticum*, gernik, kavulca, kabulca, kaplıca, siyez, karıklı, food recipes, central Black Sea area, Turkey

**Anahtar sözcükler:** Einkorn buğdayı, Emmer buğdayı, *Triticum*, gernik, kavulca, kabulca,kaplıca, siyez, karıklı, yemek tarifleri, orta Karadeniz bölgesi, Türkiye

*Orta Karadeniz Bölgesi'nde 1998 yılında yapılan bir araştırma gezisinde bu yörede tarımı yapılan Anadolu'nun en eski buğdaylarından einkorn ve emmere ilişkin çeşitli bilgiler yanında onlarla üretilen yemek tarifleri de derlenmiştir. Prof. Robert J. Braidwood ve Linda Braidwood'un değerli anılarına adanan bu yazıda, en erken kullanımlarına Çayönü'nde de rastlanan einkorn ve emmer buğdaylarının Anadolu'da günümüzde neden tercih edildiği, ne tür yemeklerde kullanıldığı tanıtılmaya çalışılmıştır. Safranbolu, Kastamonu, Amasya ve Samsun il sınırları içinde kalan köylerde etnoğrafik gözleme dayanan bu yazı, arkeologlara ele geçmeyen arkeolojik verilerin yanı sıra (bitkisel, organik maddelerden yapılmış ürün işleme araç-gereçleri gibi) bu buğdaylarla yapılabilecek yemeklere, tadlara ilişkin bir fikir vermeyi hedeflemektedir. Emmer ve einkorn ekimi bugün Anadolu'da oldukça sınırlı bir bölgede yapılmakla birlikte, işlenmesi görece daha zor olan bu antik buğdayların halen ekilmesinin yoksulluk ya da marjinal araziler nedeniyle değil, yerel tadlar ve kimlikle ilişkili olduğu savunulmaktadır. Yazının sonunda einkorn ve emmere süt ve yabani bitkiler eklenerek yapılan pilav, çorba, mayalı/mayasız ekmek, dolma tarifleri yer almaktadır.*

## Introduction

In Near Eastern archaeology, generations of archaeologist were fostered by Robert J. and Linda Braidwood to work on archaeological sites and test various models for the transition from foraging to farming. R. J. Braidwood also ensured the participation of archaeobotanists, zooarchaeologists, geologists, and ethnoarchaeologists to build a multidisciplinary research team. These teams were aware of the complex social, cultural, and economic settings behind the archaeological remains, and all were interested with the contemporary settlements around their sites as well as the ecological paradigms of the present and the past.

With increasing knowledge, we now can see an

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overall picture of different cultural adaptations that occurred in the Near East during the Neolithic period. Still, even after the accumulation of evidence from many sites, and numerous research efforts in this area during the last decades, it is not at all easy to reconstruct the details of daily living, e.g., the diet of the past.

About 7800-7500 BC, at sites such as Abu Hureyra in Syria, and Cafer Höyük and Çayönü in Anatolia, the farming of domesticated einkorn, emmer, and barley was established[1]. The area which is called "the Fertile Crescent" in the classical terminology (including the Levant, Syria, SE Anatolia, and Western Iran) was the cradle of Old World agriculture. This area was the natural habitat of wild emmer and einkorn, and, while the former had not spread outside this area, wild einkorn was much more widespread, growing from the Balkans to Iran[2]. The people of the Near East had based their farming economies on these easily available cereals and upon legumes such as lentil, bitter vetch, and chickpea, in addition to what they were gathering (greens, roots, fruits, nuts, and mushrooms) in various seasons.

The archaeobotanical remains provide information on what the early farmers of the area had planted and to a lesser degree on what they had collected. The interpretations of how these cereals and legumes were processed are based on some processing tools such as stone mortars, querns[3], features such as cooking, roasting and/or baking pits and some hearths[4] as well as ethnographical analogies. Yet, with all these at hand, can we visualize their cuisine? These findings gave insights up to a point, but no evidence can be found about the recipes. Which ingredients were used, in what proportions, and how were these cereals cooked, baked or even brewed?[5] What did the resulting food look like and how did it taste?

In July-August 1998 on an excursion organized by Mark Nesbitt, Delwen Samuel, and Stephanie Jacomet, we visited villages which still produce einkorn, and some emmer wheat in the central Black Sea region in the provinces of Kastamonu, Safranbolu, Amasya, and Samsun. We saw the fields, talked about the post-harvesting processes, and recorded recipes using einkorn and emmer in various villages. Gordon Hillman recorded operations involved in growing, harvesting, and the conversion of emmer wheat into food in the 1970s in Anatolia[6]. Although this paper is not comparable to his excellent observations, it may add some of the local traditional know-how and recipes-not as analogies for the past, but for broadening our current understanding. These recipes are important links to a long-standing cultural heritage and may help archaeologists visualize how the Neolithic people of Anatolia not only prepared and baked bread but probably created a variety of other dishes as well.

## Brief background information

Einkorn wheat (*Triticum monococcum*), emmer wheat (*Triticum dicoccum*), and barley (*Hordeum vulgare*) were the principal founder crops of Neolithic agriculture in Anatolia and the Near East. It is still possible to see wild forms of einkorn (*Triticum boeoticum* and *Triticum urartu*) and emmer wheats (*Triticum dicoccoides* and *Triticum araraticum*) in Anatolia[7]. They are generally called "hulled wheat" or "glume-wheat". Hillman explains them as follows:

> "All of them share the following feature: when threshed, the grains do not fall out of the ears as in 'free-threshing' cereals, instead their ears break into segments, called 'spikelets', each of which contains two grains tightly invested in glumes and lemmas (fine chaff). To release the grains it is necessary to break up the spikelets by pounding them or grinding them. Such operations are not necessary in free-threshing cereals"[8].

In many early Neolithic villages in Anatolia emmer and einkorn are found either in early layers of excavation, or together with the free-threshing cereals such as 'bread wheat' (*Triticum aestivum*) or 'macaroni wheat'(*Triticum durum*). In general, emmer and einkorn were more com-

| | Einkorn wheat (*Triticum monococcum* ) | Emmer wheat (*Triticum dicoccum*) |
|---|---|---|
| Safranbolu | *kaplıca* | |
| Yörükköy- Safranbolu | *kaplıca* | |
| Kastamonu | *kabulca, siyez* | *karıklı* |
| Sipahiler-40km N. Kastamonu | *tek siyez, gernik* | *çift siyez, çatal siyez, karıklı.* |
| Mancılık-30km N. Kastamonu | *siyez* | *karuklu* |
| Amasya | *gernik* | *siyez* |
| Vezirköprü- Samsun | | *siyez* |
| East Anatolia (Hillman, 1984) | | *gernik, kavulca, kabulca* |

*Table 1: Recorded local names for einkorn and emmer*[12].

mon than bread wheat during the early Neolithic. For example, from the earliest pre-pottery levels onward, Çayönü farmers had started to grow domestic einkorn and emmer wheat and also gathered them from the wild stands[9]. Emmer wheat was more commonly used than einkorn in various early Neolithic settlements[10]. According to Hillman's 1970's observations, emmer was still preferred in Eastern Anatolia and called *gernik, kavulca* or *kabulca*. The bulgur produced from emmer was generally referred to, not as *bulgur*, but as *kavulca*, the common name of the emmer crop itself in eastern Anatolia[11]. However, today einkorn is preferred to emmer in some regions such as in Safranbolu, Kastamonu, and Amasya.

## Villages of Safranbolu that produce einkorn

In the town of Safranbolu we obtained information from a shopkeeper who sold einkorn wheat. He called it *kaplıca*, and gave the names of the villages that still produce one-seeded einkorn. The village of Karapınar is the main producer, followed by Kirpe (new name: Düzce), Çiftlik (close to Bartın), and Yazı Köyü. His daughter gave us the first recipe for a soup called *aşlık*, hulled but not boiled einkorn grain (see Recipe 1). In Yörükköy we found that they eat *bulgur* (cracked wheat) made only with *kaplıca* wheat. They gave us the name of another village, Eflaniye, about two hours from Yörükköy, which still produces *kaplıca*. The post-harvesting process was explained by the elders: einkorn wheat is boiled in large cauldrons, dried, and then ground in mills to clean the husk. The chaff is then cleaned by winnowing through a sieve (*kalbur*). The women of Yörükköy added that the bread wheat mixed with kaplıca wheat is much preferred, as its bread is softer. They said that the flour of bread wheat and einkorn are produced separately, and later mixed to make bread[13].

## Villages of Kastamonu that produce einkorn and emmer

In the northwest of the Kastamonu area, the name of einkorn changes from *kaplıca* to *kabulca*, and we were informed that until a few years ago they also produced *karıklı* (emmer) for *bulgur*. In a few villages such as Sarpun, close to the town of Daday, we found out that we were 7 or 8 years too late to see the processes. According to the Sarpun women, processing these hulled grains needed much more work than free-threshing wheat, so growing hulled wheat is now limited to a few villages. However, in the east of the town of Azdavay, in a higher area over 1100 meters, we found not only fields of einkorn (Fig. 1), but also a family that gave us information about the making of bulgur and bread in the village of Kayıkçı near Söğütlüpınar. We were told that they now use einkorn mostly for fodder, and while they plant einkorn in November, emmer was once planted in the spring. Both were processed in the same way to make *bulgur*: after the grains were brought from the threshing area, they were washed in baskets called *çit*[14] (Fig. 2). The grain was then boiled and dried, taken to the water mill to crack, and then winnowed to clean the husks. Women separated the finest *bulgur* to

make soup and the coarse grains were used for *pilav*. If they wanted to make flour from *kabulca*, they took the washed and dried wheat to the water mill, and after a fine grinding they used a finer sieve to separate the chaff. The chaff was always mixed into animal fodder. The *kabulca* flour was used in small quantities to make bread softer. If there was too much *kabulca* flour in the mix, the dough ripped easily, and it was impossible to roll it out thin for making flat bread (*yufka*). We were also told that the women still produce seven varieties of bread in various forms and sizes, with or without leaven[15] . Some forms are baked only for specific feasts.

It became clear when we reached Sipahiler village (40 km north of Kastamonu) that the local terminology had changed completely. When we showed a specimen of einkorn, the villagers called it *tek siyez* or *gernik*, and for emmer they used *çift siyez*, *çatal siyez* or *karıklı*. Here we were 10 years too late to see the processes, but informants told us that they preferred einkorn (*siyez*) to emmer, and when the *siyez* fields turn from yellow to white they knew the grains had matured, and they harvested it with scythes. Cut stems were left in the fields for about two days, and then brought to the threshing floor. Threshing was done with a threshing sledge (*düven*), the straw was removed with a four pronged pitchfork (*yaba*), and the grains winnowed with a sieve (*gözer*). To make bulgur, the grains were washed in large wooden containers (*tahıl teknesi*), drained in baskets, and then added to warm water in large cauldrons, and boiled for half an hour. The boiled grain was drained in baskets, and rinsed with cold water. Large *tahıl kilimi*, especially woven hemp cloths (locally called *kendir* or *kerevüt/ Cannabis*) were laid in the sun, and the washed grains spread on them to dry for two to three days. At the water mills the grain was cracked to three sizes: coarse for pilav, medium for filling *dolma*, and fine for chick feed. At home the cracked wheat was winnowed with first a coarse, then a finer *kalbur* (sieve). Coarse and medium piles were created by the first winnowing (*yelleme*), and then coarser grains were rotated (*çevirme*) in the sieve to make yet a finer separation. The small and medium grains were also sieved a second time. The finest dust contained stone chips from the mill-stones, and was used as chick feed. Halime and Şerife Baydı from Sipahiler village gave us recipes for two kinds of *pilav* and a *dolma* (Recipes 2- 4).

In the market of Kastamonu we were able to buy einkorn when we used the word *siyez*. We also wanted to learn what we could of einkorn production and asked to see the traditional water mills. The only water mill (Fig.3-4) still operating in the region was in Mancılık village (about 30 km. north of Kastamonu). There we found a sack full of einkorn waiting to be processed. The miller, Nurettin Eker, and his wife Habibe used the terms *siyez* for einkorn, and *karuklu* for emmer. Habibe told us that they commonly use siyez for bulgur (see her *pilav* in Recipe 5 and 6), because it tastes much better than *bulgur* made of bread wheat. After it is cracked in the mill the grain needs several operations of rotating (*çevirme*) with a meshed sieve (*kalbur*) and winnowing (*yelleme*) (Fig.5) for various grades of *bulgur*.

In the neighborhood of Mancılık village we found several fields of einkorn, but no fields of emmer. The villagers told us that they once made flour from both einkorn and emmer, but they preferred einkorn bread. Unleavened dough from einkorn was made with the addition of water and salt, but only smaller flat bread was produced as it was difficult to roll large flat bread (*yufka*). Einkorn flour was also used to make a kind of pancake with a batter that was spooned on to a hot iron plate (*sac*) or fried in hot oil, *cizleme*. In Safranbolu we were told that they were mixing einkorn and bread wheat, as the large flat bread (*yufka*) ripped if the dough was made only of einkorn flour. However, it seems that in the Kastamonu area they prefer to make smaller but thicker bread with einkorn alone, and, since it does not require extensive rolling, it does not need the additional bread wheat flour.

## Villages of Amasya and Samsun that produce einkorn and emmer

In the Amasya area villagers called emmer *siyez*, and einkorn *gernik*. The villages that still produced emmer and einkorn were: Kuyumcu (close to Havza-Çiftlikköy), Paşaköy (8km.), Kabalı and Kapaklı. We went to Kapaklı, Vezirköprü- Samsun, circa 100 km. north of Amasya. On the Başalan-Kale road, we saw mixed fields of emmer and a variety of local summer bread wheat (*yazlık*). In Kale village above 1100 meters, we found the first pure emmer (*siyez*) fields (Fig.6). The owners, Bilal and Kerime Yıldırım, told us that they now planted it as fodder, but once they had made their bread with emmer, mixed with summer bread wheat. They produced two types of bread with this mixture (See Recipes 7 and 8). They also told us that they use another local variety of bread wheat (*kılçıklı Akça buğday*) for *bulgur*. It was interesting to note that emmer was never used for *bulgur* production in this area.

## Some afterthoughts

The 1998 observations indicated that at least in the central Black Sea area, especially in villages higher in altitude, people were still producing einkorn, in particular for *bulgur*, for bread, and sometimes also for fodder. Emmer production had decreased and was limited to only a few isolated villages. We were not able to learn the main reason behind the decrease of emmer cultivation compared to einkorn in the area surveyed[16]. The reasons given for the decrease in both einkorn and emmer production were the difficulty of the de-hulling process and the sequences of winnowing necessary to convert the grains to food. Among other reasons were probably the migrations of the working-age population to towns, rapid modernization of agricultural techniques, widespread use of improved cultivars of wheat, high costs of new agricultural techniques and equipments, as well as the high prices for diesel fuel for tractors, chemical composts, pesticides, etc. In the literature related to the agricultural practices of Turkey, it is often reported that the hulled wheats are grown in sloping, marginal forest areas by poor farmers where no other crops can economically be grown[17]. However, it seems that the villagers we talked to were not the poorest and the fields that we saw were not only suited to emmer or einkorn. The rapid change in social and economic factors should be more responsible than everything else. The reasons for continuity also seem important, and worth discussing.

The decrease in the use of emmer and einkorn is not surprising when we consider all the socioeconomic changes of the last decades. However, it was amazing to find many villagers still planting and using these hulled varieties, in spite of all the tedious operations related to its production. It may well be that "taste" interrelated with the concept of "cultural identity" is one of the basic motivations for this continuity. Hillman[18] mentions Pliny, who stated that antique *alica* (generally assumed to be a sort of *bulgur*) was produced from emmer, and noted that according to his informants the emmer was vastly superior in flavor and texture to the usual *bulgur* made of *T. durum*. His conclusion was that the quality and taste of emmer *bulgur* is the principal reason for the crop's still being cultivated. Ethnobotanical studies in various areas of the world[19] indicate that taste and the customs related to local cuisine are also basic motivations in the continuation of wild plant gathering, contrary to the previous assumptions of "poverty" and "hunger".

Studies also pointed out that this traditional knowledge of plants and plant processing is, in general, women's work, and this tradition not only makes an important contribution to village diet, but also provides a means to extend women's social sphere and status[20]. The decision to plant emmer and einkorn, as well as the decision to collect wild plants, is intimately related to the choices of the women who do the work. Thus for this continuity we owe a debt to

the women of Anatolia, who accept the hard work of processing these antique varieties of wheat, and for walking several hours, bending and gathering each wild plant, which they then wash and prepare the way their mothers and grandmothers taught them.

During this trip we also asked questions about the equipments related to the de-husking and processing of the grains. However, everyone in the area was remembering only water mills for de-husking hulled grains and cracking the *bulgur*. We did not see any mortars which might be used for de-husking spikelets, as was often seen in other areas[21]. So questions such as: "What kind of equipment did the Neolithic peoples use for de-husking wheat?" remain unanswered. Did they use the large grinding stones that were found by tens in the early Neolithic settlements, such as Aşıklı and Çayönü, in processing hulled wheat? Among various publications related to de-husking, I found an experimental study of Meurers-Balke and Lüning as the most relevant to our case[22]. Their tests with a stone saddle-quern and wooden mortars have proved that wooden mortars were more suitable instruments for de-husking hulled-wheat. Hillman also noted that "throughout the regions of recent cultivation of emmer, mortars and pestle/mallets were (and in some areas still are) the most usual equipment for de-husking"[23]. He concluded that Turkish farmers always use wooden mallets and prefer the mortars to be made of wood, but since the wooden mortars split easily, stone mortars were also used. In the forest rich central Black Sea area that we have surveyed, it seems quite possible that in the past wooden mortars were probably used as well.

Rotary querns or hand querns (*el değirmeni/ el taşı*) were also noted by Hillman and Koşay[24] as alternative for mortars in de-husking process, to crack *bulgur* and make flour in small quantities. An example of a nicely decorated hand-quern is present in the Amasya Ethnography Museum (Fig.8).

Consequently, our observations and notes might not give straight answers to questions such as: "What kinds of breads or dishes were early inhabitants of Anatolia eating?", but give some insights about how people might have used einkorn and emmer in the past not only for bread but for various dishes. Indeed, bread was probably a basic cereal food; the size, shape and ingredients varying with period, country, ethnicity and social strata[25]. The recipes and notes below, which include several varieties of bread made with hulled or free-threshing wheats, indicate this diversity. Some of these recipes designate the use of wild plants together with hulled wheat, some others are simple recipes of *pilav* or bread with or without leaven, one is a simple soup, another is about using hulled wheat with curdled milk, and some are more complicated *dolma* fillings. Although these recipes should not be regarded as reconstructions of antique foods, they may help to enhance our limited visions of imagining prehistoric food and tastes.

RECIPIES:

1 Aşlık Soup (*Aş Çorbası*) made of einkorn

Ingredients: One handful *aşlık* (one cup ground, un-boiled einkorn wheat), one onion, red pepper, butter, salt, mint or thyme.

Brown the onions in butter, add ground red pepper and water (or chicken stock), and ring to a boil. While boiling add a handful of *aşlık*, cover, and cook about an hour. Sprinkle dry mint or thyme (*kekik/Origanum*) as desired.

2 Sour Pilav with mallow or stinging nettle (*Ekşili Pilav*) and einkorn bulgur

Ingredients: About two handfuls of mallow (*ebegümeci/Malva*) or stinging nettle (*ısırgan/ Urtica*) leaves, 2 cup of coarsely ground einkorn bulgur, one onion, 1 cup sour yogurt, 1/2 cup butter, salt, pepper and mint.

Put the *bulgur* in a pot and cover with water, boil about 10-15 minutes, add green leaves, and after the leaves are tender, mix in the yogurt and chopped onions, and cook another

10-15 minutes. Heat the butter in a frying pan, add mint, pepper and salt, and pour over.

3 Dry Pilav (*Kuru Pilav*) with einkorn bulgur

Ingredients: Two to three cups of coarsely ground einkorn *bulgur*, a few green peppers, tomatoes, an onion, a few fresh potatoes, oil, red pepper and salt.

Wash the einkorn *bulgur* and let it soak an hour. Add chopped onions, green peppers, potatoes and tomatoes to hot oil and fry. Add washed einkorn *bulgur* to the softened vegetables, and stir a few minutes. Add hot water until it covers the other ingredients by about 1-2 cm, and add salt and red pepper. Cook over low heat until all the liquid has been absorbed. Tightly cover with a towel and a lid, turn off the heat and let it stand at least 10-15 minutes.

4 Stuffed Leaves (*Dolma*) with einkorn bulgur

Ingredients: Leaves to fill, one cup of einkorn *bulgur*- soaked in water for half an hour, two spoons of corn flour, one onion, 1 kg of milk, 1-2 spoon of oil/butter, salt, pepper.

Leaves: Three different kinds of leaves can be used: the leaves of sugar beet, black cabbage and a wild plant called yer yaprağı[26]. *Yer yaprağı* need to be boiled about ten minutes, and the blackish water is thrown away. The washed leaves are used for the *dolmas*. Other vegetable leaves can be used after they have been slightly boiled.

Stuffing: Mix einkorn *bulgur*, chopped onion, corn flour, oil, salt and pepper.

Placed the stuffing on each leave and roll, then put in a pot with a little water and salt, and cook until there is no water left. Then add the milk, and cook over low heat about half an hour. This meal can be eaten cold or hot, and if eaten hot, the milky liquid is added to each serving.

5 Pilav (Bulgur Pilavı) from einkorn

Ingredients: Two to three cups of einkorn **bulgur**, one onion, butter, salt and pepper.

Brown chopped onions in butter, add washed *bulgur* and cover the *bulgur* with hot or cold water about 2-3 cm, and then add salt and pepper. Boil until all the liquid is absorbed, then close the lid, and simmer over low heat for another 10 minutes. Let it steam for another 15 minutes before serving.

6 Sour Pilav with mallow, knotgrass or stinging nettle (*Ekşili Pilav*) and einkorn bulgur

Ingredients: Two to three cups of coarsely ground einkorn bulgur, two handful of mallow (*Ebegümeci/Malva*), knotgrass (*Madımak/Polygonum*), stinging nettle (*Isırgan/Urtica*) or beet leaves, one onion, four cups of curdled milk (*uyuşuk süt*), 1/2 cup butter, salt, pepper and mint.

Soak einkorn *bulgur* in water for half an hour, and then briefly cook. Add curdled milk, chopped leaves and onion, then cook for half an hour. Heat a few spoons of butter in another pan, add dry mint, salt and pepper, and pour on the *pilav*. When the milky liquid is absorbed, close the lid, and let it simmer.

7 Unleavened Flat Bread made of emmer and bread wheat (*Yoz ekmek*)

Ingredients: equal parts of emmer and bread wheat flour, water, salt

Mix the flour in a large container. Slowly add water and salt, and knead until it mixed properly and not sticky. Roll this unleavened dough on a wooden board to a diameter of 70-75 cm, and bake both sides on a hot iron plate (*sac*).

8 Leavened Bread with emmer and bread wheat (*Pıt ekmek*)

Ingredients: equal parts of emmer and bread wheat flour, small amount of sour dough (*acı maya* - place some freshly made dough in a small earthen pot until sour), water, salt.

Mix flour and add sour dough as leaven. Then add salt and water, knead until it does not stick to one's hand. Roll the dough a diameter of 20 cm, and 2-3 cm. thick, and bake in an oven, preferably a stone oven (**taş fırın**).

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FOOTNOTES

1 M. Nesbitt, D. Samuel 1996,68

2 M. Nesbitt, D. Samuel 1996, 60; D. Zohary, M.Hopf 1993, 32

3 F. Ertuğ-Yaraş, 2002; N. Kraybill, 1977

4 N. Miller, 2002, 87; M. Molist, 1988; M. Özbaşaran, 1998

5 Brewing cereals, such as emmer and barley to make beer is probably a very old technique. For more information see the enlightening article of S.H. Katz, M. M. Voigt, 1986 and Samuel's outstanding study on brewing and baking in Ancient Egypt: D.Samuel, 2000.

6 G. Hillman, 1984, 141; G. Hillman 1985, 12-22. In these articles he does not give recipes but detailed explanations of processes of making *bulgur, kavurga, tarhana,* and other food stuffs.

7 The botanical names are given according to M.Nesbitt, D.Samuels 1996, 43.
*Triticum dicoccoides* (Körn. ex Aschers.et Graebn.) Schweinf. - wild emmer
*Triticum araraticum* Jakubz. - wild emmer
*Triticum dicoccum* Schübl. - domestic emmer
*Triticum boeoticum* Boiss. - wild einkorn
*Triticum urartu* Thum. ex Gandil. - wild einkorn
*Triticum monococcum* L. - domestic einkorn

8 G. Hillman, 1984,146

9 W. van Zeist, G.J. de Roller, 1994, 78. Two seeded wild einkorn is found in massive stands on basaltic soils to the south of Çayönü. For detailed report see W. van Zeist, G.J. de Roller, 2003, 145-166.

10 For further information see M. Nesbitt and D. Samuel 1996, Table 2, M. Nesbitt 2002, 114, G. Willcox 1998, 27.

11 G. Hillman 1984, 114.

12 These local names recorded in our survey area seem in contradiction; however, when we think of the diverse ethnic composition and different background of villagers even within a small district of Anatolia, they can be more easily understood. Similar traits are also recorded in plant names. For example, it is possible to find several names given to the same plant, or the same name given two different species in one village.

13 People told us that while about 4-5 dönüm of land planted with bread wheat, 2 dönüm was devoted to einkorn for *bulgur* and for the flour to mix within bread wheat flour.

14 This basket was made of the branches and the bark of an oak tree (*Quercus*).

15 These varieties were noted as, 1) *Gözleme:* leavened, baked on iron plate or fried in linseed oil *(beziyağı);* 2) *Hamurlu ekmek:* leavened, on iron plate; 3) *Cızlama:* leavened, softer dough about 1,5 cm thick and about 30 cm. in diameter, baked on flatter iron plate; 4) *Yufka:* unleavened, on iron plate; 5) *Çörek:* leavened, baked in ovens, within special pots called *Cabı.* It can also be made with barley and bread wheat mixture; 6) *Bayram Çöreği:* leavened, made only for religious feasts, large bread prepared on trays baked in stone ovens. These are also taken to the cemetery to be distributed as alms; 7) *Fırın Ekmeği:* leavened, new variety, baked in stone ovens.

16 A. Karagöz, 1996, 172, Turkish Statistical Institute refers to the two species of hulled wheat as a single crop, due to the limited acreage of the area grown. It is therefore not possible to obtain the precise figure for the cultivation of each one; however, it is assumed that the area planted with emmer is much wider than einkorn.

17 A. Karagöz, 1996, 172

18 G. Hillman, 1984, 135, 140.

19 F. Ertuğ, 2000, 170, A. Pieroni, 2003, 70-72.

20 E. Daniggelis, 2003, F. Ertuğ, 2003, A. Pieroni, 2003.

21 G. Hillman, 1984, 129-131, Hillman noted that mortars (*dibek*) of wood or stone and long-nosed mallets (*tokmak*) are effective for de-husking; for Central Anatolian mortar (*soku*) types see F. Ertuğ-Yaraş, 2002, and for an excellent experimental work of de-husking emmer with mortars and querns see D. Samuel 1989, 1993.

22 J. Meurers-Balke, J. Lüning, 1992, 342.

23 G. Hillman, 1984, 129.

24 G. Hillman, 1984, 138; H. Z. Koşay, 1977, 14, 36.

25 D. Brothwell, P.Brothwell, 1998, 95, It is also stated that cereals (wheat, barley, rye, oat, rice, maize, millet) were not the only source of flour for making bread. At certain times or areas, acorns and chestnuts are grounded to flour to make bread. We also recorded a special receipt of bread from Kerime Yıldırım in Büyükkale village,Vezirköprü-Samsun. She told that during 1930-40's their parents could not even find emmer or barley to make bread, so they used the sawdust of pine trees, and mixed it with Kızılca plant (FEY press no: 660, *Beta trigyna* Waldt. et Lit) to make bread.

26 In Kastamonu, Sipahiler village we were told that the large tender leaves of this plant are collected from oak forests, from the end of May to the beginning of June. They pickled the leaves in salty water. This way the leaves can be used throughout the year. Habibe Eker in Mancılık village of Kastamonu also told us that *yer yaprağı* is used for *dolma.* They collect these leaves under the fir trees (*Köknar- Göknar Abies*), and then pickled them with salt. She told that mostly forest villages of Söğütpınar and Azdavay collect these plants. A different name, but a very close identification is given in Büyükkale village, Vezirköprü-Samsun by Kerime Yıldırım. She told that they collect a plant in May from the mountains, called *çil,* which pickled leaves used to fill *dolma.*

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*Fig. 1: Einkorn wheat / kabulca - detail Kastamonu, (F. ERTUĞ pres no. 641)*

*Fig. 2: Elife Kayıkçı, with her wheat washing basket called a çit*

*Fig. 3: Water mill in Mancılık village, Kastamonu*

*Fig. 4: Inside of the water mill, Mancılık village, Kastamonu*

*Fig. 5: Habibe Eker winnowing the bulgur, Mancılık village, Kastamonu*

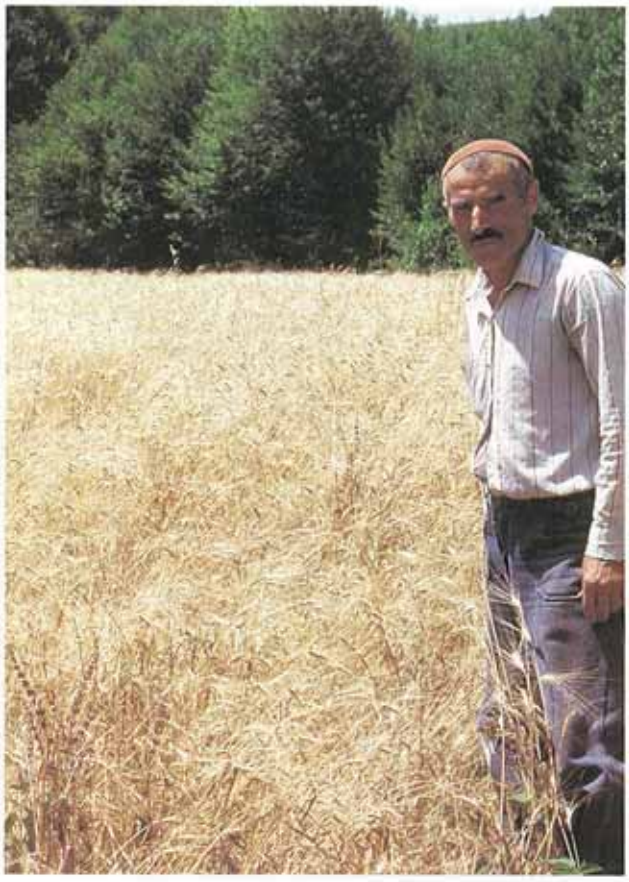

*Fig. 6: Emmer field and its owner Bilal Yıldırım, Koyunkırması area, Büyükkale village, Vezirköprü, Samsun*

*Fig. 7: Emmer wheat (siyez), Büyükkale village, Vezirköprü, Samsun*

*Fig. 8: A decorated hand-quern, Amasya Ethnography Museum: Hezeranlar Konağı*