

حصاد الشعير الغير ناضج

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Premature Barley Harvest

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المستخلص

عرف الانسان الحصاد قبل بداية الزراعة، اذ تم حصد النباتات البرية في العصر الحجري الذي سبق معرفة الزراعة. ان الحصاد في الزراعة التقليدية يتم بحصد المحصول باستخدام منجل حوالي ٣-٦ أسابيع قبل حدوث النضوج الكامل باختلاف نوع وكميات الحبوب المحصودة. ان وقت الحصاد كان جزءاً مهماً من الموسم الزراعي في بلاد الرافدين فيما يتعلق بكل من الآثار الاقتصادية وتنظيم العمل والعمال.

نسلط الضوء في هذا البحث على حصاد المبكر لمحصول الشعير (أي قبل نضوج المحصول). وقد اشارت المصادر المسمارية لذلك بالتسمية (الشعير الأخضر) اذ وردت عدة مصطلحات باللغة الاكدية (abahšinnu)، وما يقابلها باللغة السومرية (še za-gìn- duru5)، وكذلك (Hā-ba-zi-in/il).

وردت هذه المصطلحات في مختلف العصور التاريخية لبلاد الرافدين. وسوف نتطرق الى هذه النصوص المسمارية وحول استخدام هذا النوع من الشعير.

الكلمات المفتاحية: الزراعة، الحصاد، الشعير الأخضر، بلاد الرافدين، اللغة الاكدية، اللغة السومرية، مرحلة النضوج، الحبوب.

Abstract

The harvest working is defined by people before the beginning of agriculture, because they had harvested wild plants in the stone age that preceded the knowing. The harvesting is the last cultivation step work by the people in the field. In this research the researcher want to highlight the early harvested barley.

Keywords: Harvest, Barley, Agriculture, Mesopotamia, Grain, Ripe, Sumerian language, Akkadian language.

Introduction:

Harvest in traditional agriculture: The crop is harvested using a sickle about 3-6 weeks before full ripening occurs. the amounts harvested tend to vary, and although harvests of up to 100kg have been known, the average size of harvest for one family tends to be around 40-50 kg of grain¹. But the harvest time was certainly a crucial part of the Mesopotamian agricultural year with regard both to the economical implications and the organization of work and workers. Many laborers had to be hired in order to meet the exceptional needs amount of work required; harvesters could be hired either on a daily basis or for the entire harvest time.² Harvest was done with copper sickles³:

This is reflected in the cuneiform sources such as in the debate between Copper and Silver:

33. ud buru₁₄-e u₃-ma-ti-a-ta

34. ^{urud}gur₁₀ še gur₁₀-gur₁₀ nu-u₃-da-ġal₂

35. ur₅-ta en₃-zu lu₂-u₃ nu-tar-re

36. buru₁₄ en-te-en-za ^{urud}giġ₄ / ^{urud}bulug niġ₂ e₂ du₃-
du₃ u₃ kir₁₁ za-da nu-mu-da-ġal₂

37. ur₅-ta en₃-zu lu₂-u₃ nu-tar-re

"When harvest time has arrived for me, you do not supply the copper sickles that reap grain, so no one concerns themselves with you. For your harvest or winter, you do not supply the copper adzes and chisels which build houses, not even a female lamb, so no one concerns themselves with you".⁴

The date of the harvest

Harvest fluctuations in climate must have caused variations of at least a week or more in the date at which harvest actually began, but, after weighing the ancient and modern evidence and inclined to believe that reaping did usually not start before the middle of April.⁵ This is in accordance with the fact that barley is a short day plant, which usually does start the generative cycle of plant development around the spring-equinox about 20 March.⁶ In traditional agriculture the barley was cut in the ripe. Once cut it was tied to sheaves for maturing and drying in the sun. This is also reflected in the cuneiform texts such as in the so called farmer's instructions, a literal text.⁷

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74. še gur₁₀-gur₁₀-ru-da-zu-ne še ur₅ nam-ba-gam-e-en

75. ud a₂-ba-ka gur₁₀-gur₁₀-ra-ab

76. kid_x(KID₂.IM) 1-e u₃ lu₂ zar keše₂-da 1-am₃

77. u₃ lu₂ 1-e igi-ni-še₃ zar ħu-mu-ra-ab-sa₂-e

78. 3-am₃ ħu-mu-ra-ab-gur₁₀-gur₁₀-re

79. lu₂ še de₅-de₅-ga-zu še šu-ħuz na-an-ak-e

"When you have to reap the barley, do not let the plants become overripe. Harvest at the right time. One man is to cut the barley, amnd one to tie the sheaves; and one before him should apportion the sheaves: three men should harvest for you. The people who gather the barley should not let the grain dry".⁸

As already mentioned, barley was cut in its stage of ripeness. But sometimes barley was harvested in the milk ripe stage. This means: Harvesting cereals (barley, wheat, emmer) in its milk ripe stage is attested in traditional agriculture in the context of roasting the grain (Ur III at least), mixing it with yoghurt or using it for soup such as in Germany for "Grünkernsuppe".⁹

Green ripe cereals in the cuneiform evidence:

Here we want to focus about the vocabulary which appeared in Akkadian language: *abahšinnu*, and corresponding at Sumerian language: še za-gin duru₅, ħa-ba-zi-in/il.

abahšinnu

The Akkadian term *abahšinnu* is attested from old Babylonian to Neo Assyrian and Neo Babylonian period:

First example is from old Babylonian period:

1. *a-nu-um-ma a-ba-aħ-ši-nam* [S]AR

2. *ni-sa-an ša-at-tim*

3. *a-na se-er A-ad-da-a uš-ta-bi-lam*

4. *ù as-sú-ur-ri A-ad-da-a*

5. *ki-a-am i-qa-ab-bi um-ma-mi*

6. *a-ba-aħ-ši-nu-<um> an-nu-um*

7. *[a(?)]-di* GIŠ.SAR.HI.A

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"Herewith I send the first *a.* of season to my Daddy, heaven forbid that my daddy should speak in these terms, "this *a.* is (just) a garden crop [...] from the garden".¹⁰

Next example is from Neo Assyrian period:

120. ... 1 ME *ku-di-me* 1ME MUN.GAD.NI

121. ME ŠE *gu-bi-ba-te* 1 ME ŠU ú-<bu>-u $\dot{\bar{h}}$ -šen-nu

122. 1 ME DIDA SIG₅ 1 ME GIŠ.NU.ÚR.MA. MEŠ

123. 1 ME GIŠ. KIN.GIŠTIN.MEŠ 1 ME *za-am-ru sa-mu-hu*

124. ME GIŠ *bu-ut-na-te* 1 ME GIŠ.SU.SI.MEŠ

"100 (containers of) *kudimmus* (a salty plant), 100 (containers of), 100 (containers of) parched barley, 100 (containers of) *ubuhšennu*-grain, 100 (containers of) fine *billatu*-beer, 100 (containers of) pomegranates, 100 (containers of) grapes, 100 (containers of) mixed *zamrus*, 100 (containers of) pistachios, 100 (containers of)....".¹¹

abaḥšinnu it meaning cereal harvested when green¹², in Sumerian the term *še za-gìn-duru₅*, which in a broad sense, may be taken to mean "green grain or barley", and *še za-gìn-duru₅* is equated in Nabnitu with *ḥunnu₅*¹³, *ḥunnu₅* it qualifying barley¹⁴. *Abaḥšinnu* it used in Mari, MA, NA, and NB. In NA *še gubibate* 100 *še ú- <bu>- uh- šen- nu* (among victuals for the royal banquet), NB 90 sila *ab-ba-aḥ-ši-ni* (as yearly farm rent besides eleven gur barley and ninety sila, however after barley due in *Ajaru* or *Simanu*. And in SB *še a-ba-aḥ-ši-in-ni* used in a ritual, in broken context. The Sumerian term *še za-gìn- duru₅* fresh green barley, and the determinative SAR in Mari show that *abaḥšinnu* denotes the green stalk of barley collected in the spring months and probably eaten as a vegetable. In NB field rent contracts the tenant has to deliver small amounts of *abaḥšinnu* besides ripe barley and straw¹⁵.

The term *še dù-a* is associated with *ziqpu*, "stalk", and with the verb *zaqāpu*¹⁶, which has to do with being erect and similar meanings. *še dù-a* may mean "grain that has become erect" or, more freely, "grain that has sent up stalks" and perhaps refers to the stage when the ear is already on the stalk, but not yet fully ripe. The presargonic terms *še dù-dù-a* and *še nu-dù-a* that describe plots of land may therefore denote respectively "grain that has arrived at the stage of the ear on the stalk" vs. "grain that has not (yet?) arrived at the stage of the ear on the stalk"¹⁷.

Similary the term *abahšinnu* is interpreted by Powell, and the Assyrian Dictionary to mean grain harvested at an early stage and used for "roasting, soups", etc. One would assume that the unripe barley was

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prepared in some way to render it palatable for humans. Furthermore, *abahšinnu* is measured with capacity measures like other grain suggesting that the processing involved releasing the grain from the ears¹⁸.

še za-gin duru₅

The Sumerian term(še za-gin-duru₅) is generally taken to mean green (unripe) grain/ barley, the term is sometimes associated with (Še sa-a) which means roasted grain/ barley¹⁹, which mean frikkeh²⁰. There is Sumerian word which is equated with Akkadian *abaḥšinnu*: še za-gin-duru₅. This word is only attested in lexical lists such as in the Assyrian vocabulary Practical Vocabulary of Assur (PVA) or in (HR 24).

28. ŠE. DURU₅: šu-búl-tú

29. ŠE. ZA.GIN₂. DURU₅: e-b[u-ḥ]u-ši-nu

30. ŠE.SA. A: qa-la-ti²¹

From the Sumerian še za-gin duru₅ and the occurrence of the "vegetable" determinative SAR with *abaḥšinnu* in a Mari letter, drew the conclusion that *abaḥšinnu* denotes "the green stalks of barley collected in the spring months and probably eaten as a vegetable". There are, however, problems with this inference. Barley stalks, even green ones, might be tasty to a cow, whose stomachs are equipped to deal with them, but hardly to a king. Jasmah-Adad, the viceroy of Mari, sends *abahšinnu* as first fruits of the year to the king his father (see above ARM 1 112).

The term še-sa-a is common in the Ur III period; less so gig-sa-a meaning roasted wheat. In tablet XXIV of HAR-ra= ḥubullu the Babylonian basic ancient dictionary of economic life and material culture, the term še-sa-a and še za-gin duru₅ are equated with še-im *hunṭi* as denoting grain harvested in the roasting ear or unripe stage²².

It is also used as food for the royal banquet of the Assyrian king Ashurnasirpal (883-859 BC)²³. Moreover, it is measured with capacity measures like other grains, and the Neo-Babylonian rental contracts require delivery of *abaḥšinnu* in Ajaru and Simanu, at the time of the regular harvest when the stalks would no longer be green. The mention of *abaḥšinnu* "flour", also speaks against this interpretation²⁴. As usual, the harvest is in the spring but in OA only used *ḥarpu* it mean "early harvest" *ana ḥa-ar-pè išaqqulu*: they will pay at harvest time, also this term used with wheat harvest, *ina ha-ar-pi-šu uttatam sibtam lu niqli*: we shall take wheat (as) interest at harvest time, and appeared term *harpu* spring, *ištu daš'e adi ḥa-ar-pè*: from spring to harvest time²⁵.

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The evidence adduced above suggests that *abaḥšinnu* refers to grain harvested at an early stage (for roasting, soups, and the like), but whether this refers normally to a particular grain or all kinds of grain cannot be determined. Claus Wilcke has to two Old Babylonian occurrences of *abaḥšinnu* that fit the interpretation suggested above (M.A., Powell 1984, BSA, p.64). And the text of MA. mentioned about early harvest, *ina esadi turezi ḥar-bi*: at the time of harvesting the early harvest²⁶, maybe there was a relation between them.

Texts *ḥubullu* it mentions harvest time to return the loan, *ina eburim še'am u ḥu-bu-ul-la-šu [u] târ*: at harvest time he will return the barley and its, "From Elam"²⁷. And with repayment the silver, *kaspam 1 GIN bulatija ana harpe lu-pá-hi-ir-ma*: I want to collect (every) single shekel of silver of my outstanding capital by harvest time²⁸.

Sometimes barley must be harvested as it standing (as in The farmer's instruction), and care as a stalk. *Še. gur₁₅. gur₁₅. ru. da. zu. dè. še ḥar nam. ba. GAM. e. en*: when you harvest the barley do not break the barley stalk²⁹.

□ a-ba-zi-in/il= abahšinnu

Some scientists such as C. Wilcke suggest that *še ḥa-ba-zi-in* serves as a sumerogram for *še a-ba-aḥ-še-in-nu* in a comparable context. Gericht für Feinschmecker administered in minute amounts, agrees that it is grain harvested at an early stage, despite barley instead of spelled base, the barley is thick; roasted. Sum correct, contains all cereals / flour items but not the fats.³⁰ Wilcke's assumption is based on the Old Babylonian administrative list VS 22 72 because *še ḥa-ba-zi-in* in, and *ḥa-bazi-in* straw are loaded³¹, Sometimes comes with "dug" indicating a measurement or load.

12. 0; 1.1.5 sila₂ *še a-ba-aḥ-še-in-nu*

13. 0;0.4 i₂- giš 0;0.2.5 sila₂ i₂-nun

14. giri₂ Ša-al-lu-rum dumu Qur-ru-{ud-}du?

15. 0; 1.0 še ù 0;0.1.6 sila₂ zì- da

16. giri₂ Šu-zu-bi

17. 1;0.0 še gur giri₂ ^d*Marduk-pa-li-ih-šu-i-de*

18.šu- nigin₂ 11;3.4.9 sila₂ še gur

19. zì-da *ki-ba-tum* ù *še ḥa-ba-zi-in*

"0; 1.1 and 5 liters Green grain, 0;0.4 oil (and) 0;0.2 and 5 liters of butter transport (responsibility) of Šallūrum, the son of Qurrudu".

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15. 0;1.0 barley and 0;0.1 and 6 liters of flour transport (responsibility) of Šūzubu".

17. "1;0.0 gur barley - Transportation (responsibility) of Marduk-pāliḥ-šu- ide".

18. "18. A total of 112;3.4 and 9 liters of gur barley, flour, wheat and greens".

Transported in dug kir vessel:

In ^{dug}kir vessel usually: beer honey and milk and water (so liquids) and fat. The Dug/ *kirru* it was metal or stone, this type of vessel it used to transfer food commodities also to containers used for storing³², and ḥa-ba-zi-in straw are loaded.³³

If we take the "descriptions" of the old Babylonian lists seriously, it becomes apparent, with the addition of administrative texts, that the container besides beer serves other materials as well as spices and milk products and ḥa-ba-zi-in. Therefore, nothing speaks against the assumption. Ur III furthermore green kernel ḥa-ba-zi-in and Sargonic period spices and milk products attested. Therefore, nothing speaks against the assumption, also ^{Dug}kir ga.k (for milk) call this case, since UrIII document comes from another archive (Sallaberger 1996)³⁴. The term ^{dug}kir *kirrum* it large vassel of earthenware used for water, beer, oil, milk and honey³⁵.

Ḥabazi is also attested in Ur III-period administrative texts. Here it is also transported in vessels (dug) sometimes together with milk such as in the next example:

BPOA 7 1584/ umma/ u₃ period, dug Ha-ba-zi-in

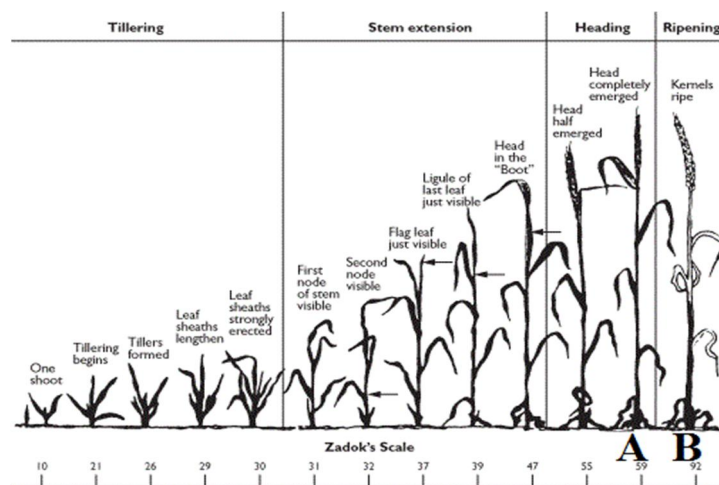
1	20 la ₂ 1 uz-tur
2	ki Ur-nigar _x ^{gar} dumu ensi ₂ -ka-ta
3	10+2 ⁷ mušen amar-sag
4	ki Ur-nigar _x ^{gar} A-pi ₄ -sal ₄ ^{ki} -ta
5	20 mušen amar-sag
r. 1	Lugal-ku ₃ -GI
2	1 dug ha-ba-zi-in
3	20 dug ga
4	300 ku ₆ kun-zi

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5	[...] nig ₂ -[bun ₂]-na
6	[...] bar igi bu ₃
7	[...] Ur-nigar _x ^{gar} -ka
8	giri ₃ še-er-ha-an

The Dug / *kirru* it was metal or stone, this type of vessel it used to transfer food commodities. And ḥa-bazi-in straw are loaded(RA 1928, 1, 2)³⁶.

The most probable suggestion is that it would have been roasted and then cooked in the same way that frikkeh is today. powell also cites two other Old Babylonian sources that support his interpretation of the word *abahšinnu*. refers as well to Neo Babylonian field rent contracts in which tenants have to deliver small amounts of *abahšinnu* in addition to ripe barley and straw³⁷. We see below in (fig. 1) the stage of growth barley, also we determined in (fig. A) early harvested (unripe) synonym of Akkadian term *abahšinnu*, and the (fig B) barley in stage ripe.



A: Premature barley.

B: Ripe barley.

Discussion

- Harvesting begins after the crop has matured and may be in the twelfth month of the year or the thirteenth month as in the same calendar of the cities of Mesopotamia³⁸.

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- Offering after crop harvesting at the end of the successful agricultural year³⁹.
- Production and use outside the causes. That is early harvesting leads to reduced crop yields as a result of the lower weight of the immature grains. Unless this could be offset by an increase in the commercial value of frikkeh, then its viability as a major economic crop product is not practical.
- The impracticality of production bread making flour from frikkeh due to the high sugar content in the seeds instead of starch. It is this starch together with the gluten present in the mature seeds which is essential for giving dough its consistency.
- That whilst it is possible to sow unripe seeds, the yields are markedly reduced.
- The debts are repaid at the time of harvest, and this is often mentioned in ancient Babylonian texts⁴⁰.
- There is a difference in harvest time for barley between North and South of Mesopotamia.

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- 2 Annunziata Rositan, Harvest Texts in The British Museum, Roma, 2011, p. 12.
- 3 For sickles see Anonymous. Mesopotamia Farming Tools, 2005, 2, https://sosmesopotamia.wikispaces.com/file/view/Mesopotamian_Farming_Tools.pdf/597205710/Mesopotamian_Farming_Tools.pdf
- 4 See [www.ETCSL](http://etcsl.orinst.ox.ac.uk/section5/tr536.htm), c.5.3.6.33-37. <http://etcsl.orinst.ox.ac.uk/section5/tr536.htm>
- 5 See Laplaca & Powell 1990, 78 referring to Early Bronze Age evidence. But the same is true for all periods of Mesopotamian history.
- 6 Booting and bolting is induced by photoperiod. In temperate climates the winter types were sown in Autumn and Spring types were sown in Spring. In arid areas with very hot summer temperatures like Mesopotamia spring

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- type cereals with no vernalisation requirement were sown in Autumn and harvested in Spring (Blumler & Waines 2009).
- 7 [Tel the reader something about the farmer's instructions]. For farmer's instructions see the edition Civil check.
- 8 See www.ETCSL; c.5.6.3.74; Civil, M., "The Farmer's Instructions, A Sumerian Agricultural Manual", (Aula Orientalis Supplementa 5), Barcelona, 1994 (edition).
- 9 The literal meaning of „Grünkernsuppe“ (green kernel soup) reflects that milk ripe cereals (the plant and the grain) have green color whereas the full ripe cereal plants and kernels are of pale yellow colour.
- 10 Archives Royales de Mari, ARM, 1, 112 line 5-11.
- 11 The Royal Inscriptions Of Mesopotamia Assyrian Periods, RIMA, 2, a.0.101.30:120-122.
- 12 CAD, A1, p.3.
- 13 M.A., Powell 1984, BSA1, p.64
- 14 CAD, H, p 237.
- 15 CAD, A1, p 3.
- 16 CAD, Z, p 127.
- 17 M.A., Powell 1984, BSA1, p.64.
- 18 Amr Al Azm 2009.
- 19 Amr Al Azm 2009.
- 20 Frikkeh is an important product which has been widely prouced in the Near East since antiquity. It consists of grain, usually wheat but also occasionally barley, which has been harvested specifically in an unripe state with the intention of roasting it. The term frikkeh is derived from the Arabic word "to rub", relating to the action used to release the roasted seeds from the ears. See Amr Al Azm.
- 21 Landsberger, B., & Gurney, O.R., 1957-1958, "Practical Vocabulary of Assur", AFO, Chicago, p. 328-341.
- 22 Amr Al Azm 2009.
- 23 see above RIMA 2 a.0.101.30.
- 24 M.A., Powell 1984, BSA, p.64.
- 25 CAD, H, p. 106.
- 26 CAD, H, p 105.
- 27 CAD, H, p 217.
- 28 CAD, P, p 30
- 29 CAD, H, p.57.
- 30 See Wilcke, C., 1990, Recension: "Klengel, H., Vorderasiatische Schriftdenkmäler der Staatlichen Museen zu Berlin, herausgegeben von

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- 31 Fuye, A., 1928,"Deux inscriptions inédites d'Oumma relatives a la navigation", RA 1, 2.
- 32 CAD, K 205, 408.
- 33 Fuye, A., 1928,"Deux inscriptions inédites d'Oumma relatives a la navigation", RA1, 2.
- 34 Sallaberger 1996, 71 with n. 297 referring to Wilcke 1990, 301 translates ha-ba-zi-in as "Grünkern" (in English literally: green grain).
- 35 CAD, K, 409.
- 36 Fuye, A., 1928,"Deux inscriptions inédites d'Oumma relatives a la navigation", RA1, 2.
- 37 Amr Al Azm 2009.
- 38 Maeda, T., "On the Agricultural Festivals in Sumer", ASJ 1, Hiroshima, 1979, p.20.
- 39 Maeda, 1979, 25.
- 40 MSL, V, 19: 154; MDP, XXII, No.33, 35.