**YESHIVAT HAR ETZION**

**ISRAEL KOSCHITZKY VIRTUAL BEIT MIDRASH (VBM)**

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**THE LAWS OF THE BERAKHOT**

**Rav David Brofsky**

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Sponsored by Aaron and Tzipora Ross and family in honor of the *yahrtzeits* of our esteemed grandparents: Neil Fredman (Shmuel Nachamu ben Shlomo Moshe HaKohen, 10 Tevet), Clara Fredman (Chaya bat Yitzchak Dovid, 15 Tevet), and Walter Rosenthal (Shimon ben Moshe, 16 Tevet).

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Dedicated in loving memory of Richard J. Silvera A”H   
by his children Hillel (’91), Albert, and Michelle

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Dedicated by the Wise and Etshalom families in memory of   
Rebbetzin Miriam Wise, ז״ל, Miriam bat Yitzhak and Rivkah,   
whose first *yahrtzeit* is on 9 Tevet.   
 Yehi zikhra barukh.

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**Shiur # 46: *Berakha Acharona***

**The *Shi’ur* for a *Berakha Acharona*: *Ke-zayit***

**Introduction**

The Talmud (*Sukka* 6a) teaches that “most of its measurements are a *ke-zayit* (the size of an olive).” Indeed, throughout the Talmud, we find that the minimum amount that one must eat in order to fulfill a *mitzva* or for which one is punished is generally a *ke-zayit*.

Regarding a *berakha acharona*, the Rif (*Berakhot* 27a) derives from the *gemara* (*Berakhot* 37b) that while one must say a blessing before eating even the smallest amount, as it is prohibited to benefit from this world without a blessing (*Berakhot* 35a), one only says a *berakha acharona* after eating the equivalent of a *ke-zayit*. Tosafot (*Berakhot* 38a, s.v. *batzar*), the Rosh (*Berakot* 6:16), and other *Rishonim* arrive at the same conclusion, and the Shulchan Arukh (210:1) rules that one should only say a *berakha acharona* after eating a *ke-zayit* of food. The size of a *ke-zayit* is also relevant for determining how much *matza* and *marror* to eat on the first night of Pesach.

How does one estimate the size of a “*ke-zayit*”? The *Rishonim*, and in turn the *Acharonim*, employ two methods in determining the size of a *ke-zayit*: measuring the *ke-zayit* in relation to the *ke-beitza* (the volume of an egg) and using the size of the contemporary olive. This week, we will attempt to simplify and summarize the basic issues regarding this question.[[1]](#footnote-1)

**The Size of a *Ke-Zayit* – In Relation to an Egg**

Some *Rishonim* maintain that one must determine the size of a *ke-zayit* based upon its relation to the size of a *ke-beitza*. They arrive at this conclusion based upon an apparent contradiction between Talmudic passages. On the one hand, the Talmud (*Yoma* 80a) states that the Sages measured that the esophagus cannot hold more than the size of an egg. On the other hand, the Talmud elsewhere (*Keritut* 14a) teaches that the Rabbis have calculated that the gullet cannot hold more than two olive-sizes at a time. These passages seem to indicate that a *ke-zayit* is half the size of a *ke-beitza*.

Based on these passages, a number of Ashkenazic *Rishonim*, including the Ri (Tosafot, *Eiruvin* 80b, s.v. *agav*), the Ra’avia (525), the Terumat Ha-Deshen (139), and the Maharil (Seder Ha-Haggada 31) assert that a *ke-zayit* is the size of half of an egg (*ke-beitza*).

It is important to note in this context that an olive (generally 3-6 cc) is nowhere near the size of a half of an egg (generally 50-60 cc). It appears that the *Rishonim* from North Western Europe (i.e. Ashkenaz) never actually saw an olive, which only grows in the Mediterranean region! Indeed, R. Eliezer b. Yoel Ha-Levi (Germany, c.1140-c.1225), known as the Ra’avia, writes:

And wherever a *ke-zayit* is required, the food should be measured generously, since we are not familiar with the measurement of an olive, and so that the blessing should not be in vain. (Ra’avia, *Berakhot* 107)

Therefore, it is not surprising that Ashkenazic *Rishonim* based their calculation of the *ke-zayit* upon its relation to the egg, as described by the Talmud.

Other passages, however, point to a different size of a *ke-zayit*. Regarding the laws of *eiruv chatzeirot*, the Talmud rules (*Eiruvin* 80b) that the amount of food for two meals (*shtei se’udot*) is equivalent to the amount of 18 *grogerot* (dried figs). Elsewhere, regarding the laws of *eiruvei techumin*, the *gemara* (*Eiruvin* 82b) cites different opinions regarding the amount of food considered to be sufficient for *shtei se’udot*. According to R. Yochanan ben Beroka, two meals consist of a quantity equivalent to the size of six eggs, while according to R. Shimon, it is slightly less – five and a third eggs. Accordingly, according to R. Yochanan ben Beroka, a *grogeret* is about a third of the size of an egg (6/18, or 1/3), while according to R. Shimon, a *grogeret* is slightly larger (8/18).

Based upon these passages, the Rambam (*Hilkhot Eiruvin* 1:9) rules that two meals equals the volume of 18 *grogerot*, which are equivalent to 6 medium sized eggs. Since the *gemara* (*Shabbat* 91a) records that an olive (*ke-zayit*) is smaller than a *grogeret*, a *ke-zayit* must be smaller than a third of a *ke-beitza*.[[2]](#footnote-2)

The Shulchan Arukh’s opinion is somewhat unclear. In *Hilkhot Eiruvin* (378:3, 409:7), he rules in accordance with the Rambam that 18 *grogerot* are equivalent to 6 eggs, which means that a *ke-zayit* must be smaller than a third of an egg. However, regarding the laws of *matza* (486), he writes: “Regarding the size of a *ke-zayit*, some say (*yesh omrim*) that it is half of an egg.”

The *Acharonim* note this apparent contradiction, as well as the phrase “some say” in the context of *matza*. Some (see, for example, Mishna Berura 486:1 and R. Chaim Naeh, *Shiurei Torah*, p. 190, n. 24) suggest that the Rambam is strict regarding *mitzvot de-oraita* (Biblical *mitzvot*), such as *matza*, and most probably a *berakha acharona* as well, due to the principle of *safek berakhot le-hakel*. Others (see R. Chaim Benish, “*Shiur* *Ke-Zayit* – *Bi’ur Da’at Rishonim Ve-Acharonim*,” who cites numerous *Acharonim*) suggest that the Shulchan Arukh did not intend to rule against the Rambam and the prevalent custom, but rather merely to cite the only explicit *shiur* that appears in the *Rishonim*.

If the size of a *ke-zayit* is to be measured in relation to an egg, according to the Ri, as cited in the Shulchan Arukh, then what is the proper measurement of an egg? The *Acharonim* offer a number of approaches. The most prominent is suggested by R. Chaim Naeh.

In 1943, R. Chaim Naeh (1890–1954), author of the Ketzot He-Shulchan, published “[*Shi’urei Torah*](http://www.hebrewbooks.org/20888),” which defended the measurements used for generations by the community in Jerusalem. He based some of his measurements upon a passage in the Rambam (*Peirush Ha-Mishna, Eduyot* 1:2) in which he reports that the measurement of a *revi’it* of water is equivalent to 27 Arabic coins known as “drahms.” Since a *revi’it* is the equivalent of an egg and a half (including its shell), an egg’s volume in displaced water is 18 drahm. R. Chaim Naeh measured a drahm, which was used as a coin in the Arab world for hundreds of years, and reported that each drahm was 3.205 gram. Thus, 18 drahm are 57.6 gram, and the volume of an egg with its shell is approximately 57.6 cc.

R. Chaim Naeh further estimates that according to Tosafot, who maintain that a *ke-zayit* is a half of a *ke-beitza*, half of a *ke-beitza* without its shell (54.7 cc) is 27 cc. According to the Rambam, a *ke-zayit* is a third of an egg, with or without its shell, 19.2 cc or 17.3 cc accordingly.

Interestingly, recent research has determined that the drahm used by the Rambam was actually smaller than the one measured by R. Chaim Naeh, 2.83 gram (see Yaakov Gershon Weiss, [*Sefer Midot U-Mishkalot Shel Torah*](http://www.daat.ac.il/daat/vl/tohen.asp?id=143), [p. 89](http://www.daat.ac.il/daat/vl/midot/midot05.pdf)). Accordingly, R. Chaim Pinchas Benish (*Midot Ve-Shiurei Torah*, pp. 69, 71) claims that the volume of an egg according to the Rambam is actually 50 cc., and the measurements of a *ke-zayit* are less than 17 cc (Rambam) and 25 cc (Tosafot). He [records](file:///C:\Users\user\Downloads\Hebrewbooks_org_49154.pdf) that both R. Shlomo Zalman Auerbach and R. Ovadia Yosef accepted this revised *shiur*.

**Have Eggs Doubled in Size?**

Interestingly, R. Yechezkel Landau (1713 –1793), author of the Noda Be-Yehuda, questioned the commonly accepted size of an egg. Based upon another method of measuring that appears in the Talmud (*Pesachim* 109a-b),[[3]](#footnote-3) R. Landau discovered a discrepancy between the measurements based on volume and the measurements based on dimensions. (This discrepancy was actually noted earlier by the Tashbetz 3:33 and others.) He writes (Tzalch, *Pesachim* 116b):

For in truth it is clear in the Shulchan Arukh (486) that the size of a *ke-zayit* is half the size of an egg. However, it is clear to me by way of measurement that with the eggs that we have in our day, a whole egg of our day is only half the size of an egg that was used for the Torah quantities… And against our will we see that things have changed in our time; either thumbs have grown, and they are bigger than the thumbs of the days of the *Tanna’im*, or the eggs have shrunk and in our day they are smaller than the eggs of the era of the *Tanna’im*. And it is known that the generations progressively decline, and it is therefore impossible that our thumbs should be larger than the thumbs in the day of the Sages of the Mishna.

R. Landau maintains that one must attribute this discrepancy to thumbs becoming larger over time or to eggs becoming smaller than they once were. He concludes that today’s eggs are smaller than in the past:

It is therefore necessarily the case that the eggs of our day are smaller… and since it has become clear that our eggs are smaller by half, therefore the size of a *ke-zayit*, which is [originally] half an egg, is as the size of a whole egg of today. And thus I evaluate the eating of *matza* and *maror*…

R. Eliezer Fleckless (1754 – 1826), a student of the Noda Be-Yehuda and author of the Teshuva Me-Ahava, reports that when he suggested that his teacher arrived at this conclusion because he himself was an especially tall person, R. Landau “shook his head and was quiet.” Some (see Yehuda Ya’aleh YD 205) suggest that this indicates that the Noda Be-Yehuda actually changed his mind!

In 1947, R. Avraham Yeshayahu Karelitz (1878–1953), known as the Chazon Ish, published a response to R. Chaim Naeh’s *Shiurei Ha-Torah* in which he defended the position of the Noda Be-Yehuda. In his [Kuntras Ha-Shiurim](http://hebrewbooks.org/pdfpager.aspx?req=14336&st=&pgnum=117&hilite=) (OC 39), he concludes that since the volume of a *ke-beitza* is 100 cc, according to Tosafot, a *ke-zayit* is 47.5 cc (1/2 of an egg without its shell) and according to the Rambam, it is 33 ml (1/3 of an egg with its shell).

The *Acharonim* and recent scholars have raised many objections to the view of the Noda Be-Yehuda and the Chazon Ish.

Some *Acharonim* raise textual objections to the notion that the size of the *ke-zayit* and *ke-beitza* are double the currents sizes. For example, the Mishna Berura (Bi’ur Halakha 271, s.v. *revi’it*) notes that based on the *gemara* (*Yoma* 80a), a person’s two cheeks (*melo lugmav*) can hold a *revi’it*, approximately the volume of 1.5 eggs. According to the Noda Be-Yehuda, a person’s mouth should be able to hold the equivalent of three eggs (150 cc), which seems virtually impossible.

Others object on different grounds. R. Natan Slifkin, in an [essay](http://www.zootorah.com/RationalistJudaism/TheEvolutionOfTtheOlive.pdf) supporting the minimalist view of the *ke-zayit*, summarizes much of the scientific and archeological evidence. For example, he cites Professor Yehuda Feliks (*Kelai Zera’im Ve-Harkavah*, p. 184 n. 5.), who relates that the eggs that were preserved whole in the volcanic destruction of Pompeii two thousand years ago were “around the size of the small Arab eggs of our time,” which he defines as 41.4cc. Furthermore, he notes that olive pits found in archeological digs from the time of the Mishna are no larger than olives found today (see Mordechai Kislev, “[*Kezayit – Peri Ha-Zayit Ke-Midat Nefach*](http://www.zomet.org.il/?CategoryID=290&ArticleID=386),” *Techumin* 10, pp. 427-437).

Although halakhic charts often cite the stringent opinion of the Chazon Ish and list a *ke-zayit* as either 33 cc or almost 50 cc, as they appear in his *Kuntrus Shiurim* (OC 39:17), some sources indicate that the Chazon Ish himself believed that these measurements are *chumrot* (stringencies) and are not halakhically required. R. Hadar Yehuda Margolin, in one of his many enlightening articles on this topic (“*Berur Shitat Ha-Chazon Ish Be-Shi’ur Kezayit*,” *Moriya* 107), insists that the Chazon Ish – based on his own letters (*Iggerot* 194) and testimony from his nephew, R. Chaim Kanievsky – maintained that *me-ikkar ha-din*, we do not assume that the size of an olive has changed, and one may assume that a third of an egg (17 cc) is sufficient for *matza* and for a *berakha acharona*.

Some suggest following the stringent view of the Noda Be-Yehuda (and Chazon Ish) when fulfilling the Biblical *mitzva* of *matza* (see Mishna Berura 486:1), and possibly even *Kiddush* (which is based on the Biblical obligation of “*zakhor*”). However, most *Acharonim* reject this opinion, and the common practice in Europe before WWII was certainly not to follow this view (see, for example, Mishneh Halakhot 8:194).

***Ke-Zayit* is the Size of an Olive**

The second approach to assessing the size of a *ke-zayit* maintains that there is no inherent relationship between the size of an olive and an egg. Indeed, even the Rambam cited above never mentions the size of a *ke-zayit*; he merely implies that a *ke-zayit* is smaller than a fig, which is a third of the size of an egg. Many early authorities maintained that a *ke-zayit* was in fact a *ke-zayit*, i.e. the size of an olive.

Some cite proofs from the Talmud that seem to reject the larger amounts suggested by R. Chaim Naeh, and certainly those of the Chazon Ish.

For example, the *gemara* (*Menachot* 26a; see Rambam, Hilkhot Ma’aseh Ha-Korbanot 13:14) implies that a *kohen* must be able to fit the volume of two olives into his hand (*ein kometz pachot mi-sheni zeitim*). It is impossible to fit within the cavity of three fingers and the palm (*kemitza*) even two thirds of an egg, let alone an entire one.

Similarly, as mentioned above, the Talmud (*Keritut* 14a) asserts that the esophagus can hold the volume of two eggs. Here too, it seems unlikely that one can swallow a half and egg, or even a third of an egg, at once.

In addition, the *gemara* (*Berakhot* 37a) describes a case in which there are *perurim* (crumbs) the size of a *ke-zayit*. If a *ke-zayit* were the size of a third or half of an egg, they would certainly not be called crumbs!

Finally, the *gemara* (*Makot* 16b) describes a situation in which one eats 2-3 large ants or 10 small ants that equal the size of a *ke-zayit*. It seems unlikely that the Talmud refers to ants so large that only 2-4 would equal the size of a third or half of an egg.

Aside from the proofs from the Talmud and the implicit agreement of most *Rishonim* that a *ke-zayit* is smaller than a fig, numerous *Geonim* and *Rishonim* also explicitly support the claim that a *ke-zayit* is not measured in relation to an egg and is indeed the size of an olive.

For example, R. Sherira Gaon (c.900-c.1000), in a recently discovered responsum (cited in Sefer Ha-Eshkol, vol. II, *Hilkhot Challa* 13, p. 52), insists that the measurements of eggs and olives are not based upon the weight of coins, but rather upon the size of the egg and olive itself:

You asked me to explain if there is a weight given for the fig, olive, date and other measurements in the weight of Arabic coins, and you explained that R. Hilai Gaon clarified that the weight of an egg is 16 2/3 silver pieces. [You wondered,] if the others do not have an ascribed weight, why is the egg given one? It is known that these other measurements are not given any equivalent weight in silver, not in the Mishnah nor the Talmud. If [the Sages] had wished to give a measurement in terms of the weight in dinarim, they would have done so originally. Rather, they give the measurements in terms of grains and fruit, which are always available, and one is not to say that they have changed…

We practice according to the Mishna: Everything goes according to the observer… And likewise with regard to the olive and date, it is explained in this Mishna that it is not referring to a large one or a small one, but rather an average one – and it is also according to the view of the observer.

Similarly, Rav Hai Gaon (939-1038), writes:

And therefore the Torah gave measurements in terms of eggs and fruits … because eggs and fruit are found in every place. For it is known and revealed before the One Who spoke and brought the universe into existence that Israel is destined to be scattered amongst the nations, and that the weights and measures that were in the days of Moses and that which were added to in the Land of Israel would not be preserved, and that the measurements change in different times and places… Therefore, the Sages related the quantities to fruit and eggs, which always exist and never change. They made the quantity of an egg depend upon the view of the observer. (Ibid., pp. 56-57)

The Rashba (*Mishmeret Ha-Bayit*, p. 96) and the Ritva (Shabbat 76b, printed at the back of the Mosad HaRav Kook edition) also explicitly speak of a *ke-zayit* much smaller than a third of an egg.

In addition, numerous *Acharonim* also reportedly maintain that a *ke-zayit* is indeed the size of an olive, including R. Chaim Volozhin (*Sha’arei* *Rachamim* 51, *Minhagei Ha-Grach*) and R. Avraham Bornstein (the Avnei Nezer, cited in *Midot Ve-Shiurei Torah*, p. 510).

Which olives are we to measure against? The Mishna (*Keilim* 17:8) teaches: “The *ke-zayit* of which they spoke is neither a large one nor a small one, but rather a medium-sized one, which is the *egori*.” Prof. Mordechai E. Kislev (“*Peri Ha-Zayit Ke-Midat Nefach*”) describes three olives common to the land of Israel: the Shami (a large olive, approximately 12-13 cc), the Melisi (a small olive, 0.5-1cc), and the Suri or Nabali olives, which range from 2.5- 6 cc). The average olive found in Israeli measures between 3–4 cc. R. Chaim Benish (“*Shiur* *Ke-Zayit* – *Bi’ur Da’at Rishonim Ve-Acharonim*”) suggests that one should be stringent and assume that a *ke-zayit* is no smaller than the larger olives found in Israel, which measure close to 7.5 cc.

**Summary**

Most authorities adopt the view of R. Chaim Naeh and assume that a *ke-zayit* is approximately 27 cc (half of a *ke-beitza*). Of course, the more accurate calculation of the Egyptian drahm leads to a slightly smaller amount. Some (including R. Kanievsky, as cited above) assume that one can rely upon the Rambam’s view and say a *berakha acharona* after eating at least a third of a *ke-beitza*, at least 17 cc. Others follow the tradition of R. Chaim Volozhin and others and say a *berakha akharona* after eating an amount equivalent to the volume of an olive, around 3–4 cc.

Many halakhic compendiums write that one should measure a portion of food against a standard match box, approximately 25-30 cc (5X3.5X1.5); a plastic bottle-cap is approximately 10 cc.

Next week, we will conclude our study of the *ke-zayit*, and discuss whether one measures a *ke-zayit* by volume (*nefach*) for weight (*mishkal*). In addition, we will question whether one measures the entire food or only the relevant ingredients (i.e. flour in a cake). We will also note that the *ke-zayit* of food must be eaten within an amount of time known as *kedei akhilat peras*, which we will attempt to define.

1. In recent years, of number of articles have been written on this topic. These articles were invaluable in producing this summary. See, for example: Beinish, Chaim, “*Shiur Ke-Zayit: Midot Ve-Shiurei Torah*” (Bnei Berak, 1990); Benish, Chaim, “*Shiur Ke-zayit – Bi’ur Da’at Rishonim Ve-Acharonim*,” in *Kovetz Beit Aharon Ve-Yisrael* 2; Greenfield, Avraham, “*Ha-Kesher Bein Shiurei Ke-zayit Ve-Ke-Beitza*,” *Techumin* 14 (1994); Kislev, Mordechai, “[*Ke-zayit – Peri Ha-Zayit Ke-Midat Nefach*](http://www.zomet.org.il/?CategoryID=290&ArticleID=386),” *Techumin* 10 (1989); Margolin, Hadar Yehuda, “*Beirur Shitat Ha-Chazon Ish Be-Shiur Ke-zayit*,” *Moriya* 107 (1993); Margolin, Hadar Yehuda, [*Kuntras Shiur Ha-Kezyit*](http://www.dafyomi.co.il/lectures/reviis/kuntras-kzayis.pdf) (taken from *Hidurei Ha-Midot*); Navon, Hayim, *“*[*Kama Zeitim Yesh Be-Ke-zayit*](http://www.daat.ac.il/daat/toshba/halacha/kama-2.htm),” *Alon Shevut Bogrim* 18 (2003); Slifkin, Natan, “[The Evolution of the Olive](http://www.zootorah.com/RationalistJudaism/TheEvolutionOfTtheOlive.pdf)” (2010). See also Mandelbaum, Alexander, *Ve-Zot Ha-Berakha* (1992); Melamed, Eliezer, *Peninei Halakha – Berakhot* (2009). [↑](#footnote-ref-1)
2. The *Acharonim* grapple with the apparent contradiction between this passage and the *gemara* cited above (*Keritut*); their answers are beyond the scope of this discussion. [↑](#footnote-ref-2)
3. The dimensions of a *revi’it* (1.5 eggs) are 2 fingerbreadths X 2 fingerbreadths X 2.7 fingerbreadths. [↑](#footnote-ref-3)