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Insect Infestation and Our Food, The Halakhot Of Bugs

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Sheila:

What is the level of inspection for bugs that we are required to utilize before eating fruits and vegetables?

Teshuvah:

The Biblical origins of the prohibition of eating bugs is found in Leviticus 11 and Deuteronomy 14.

"But anything in the seas or in the streams that has no fins and scales, among all the swarming things of the water and among all the other living creatures that are in the water-they are an abomination for you and an abomination for you they shall remain". (Lev:11-10)

"All the things that swarm upon the earth are an abomination; they shall not be eaten." (Lev 11:41)

"For I the Lord am your God: you shall sanctify yourselves and be holy, for I am holy. You shall not make yourselves unclean through any swarming thing that moves upon the earth" (Lev 11:44).

"These you may eat of all that live in water: you may eat anything that has fins and scales. But you may not eat anything that has no fins and scales: it is unclean for you." (Deut 14:9.10)

"All winged swarming things are unclean for you: they may not be eaten" (Deut 14: 19)

There is an additional prohibition against eating that which is disgusting (Baal teshaktzoo)...*"You shall not draw abominations upon yourselves through beast or bird or anything with which the ground is alive, which I have set apart for you to treat as unclean" (Lev 20:25).*

The Talmud reinforces these prohibitions in Makot:13a; and Makot:16b shows how consumption of bugs can violate as many as 6 different prohibitions. Many of the laws are codified in the Shulhan Arukh Yoreh Deah 84.

The halakhic reality though is not nearly as clear as the Biblical text would appear. In an article posted on the internet, "Kosher Worms and Insects", Rabbi Ari Enkin a researcher and writer of

The Committee on Jewish Law and Standards of the Rabbinical Assembly provides guidance in matters of halakhah for the Conservative movement. The individual rabbi, however, is the authority for the interpretation and application of all matters of halakhah.

contemporary halachic issues and the author of the “Dalet Amot of Halacha” series, lists some of the exceptions to the rules of the text.¹

¹ There are also a number of circumstances in which the consumption of worms is permitted. For example, worms which are found within a fish are often permitted to be eaten along with the fish itself. There are generally two types of worms which can be found inside a fish – those in the flesh of the fish and those in the intestines. It is only the worms which are embedded in the flesh of the fish which are permitted. [5] Worms which are found in the intestinal tract, evidence of having been recently swallowed, remain prohibited. [6] For more on this issue, see here: [link](#).

Similarly, one will often find worms in cheeses that are hard, [7] aged, [8] or otherwise prepared in a way that gives the cheese a very sharp taste. These worms are kosher and are permitted to be eaten as long as they remain embedded within the cheese. However, if they leap off or otherwise separate from the cheese, they are then forbidden to be eaten. [9] Some authorities even allow the consumption of worms which have separated from cheese as long as they have not gotten further than the plate or serving dish. [10]

Additionally, it is permitted to eat a worm that grew in a fruit that had been detached from its source of growth and had never been exposed to the air. However, worms and other insects which grew in a fruit while it was still attached to the tree are forbidden to be eaten. [11] If one is in doubt whether a worm that is found in a fruit is of the permitted or forbidden species, the fruit may not be eaten. [12]

It is permitted to grind stalks of wheat which are found to be wormy as long as the flour will be properly sifted following the grinding. [13] It is also permitted to eat burnt or pulverized worms, insects, and other non-kosher products when there is a medical benefit in doing so. [14] Honey is a kosher product even though it is the by-product of non-kosher insects. [15]

Another exception to the prohibition on consuming insects applies to certain aquatic species. As mentioned, insects are only prohibited if they grew in seas, rivers, or lakes. Worms and insects that grew in water originating in containers or cisterns are permitted to be consumed when swallowed in the course of drinking directly from such sources. [16] For example, one who is forced to drink water directly from a well would be permitted to do so without having to first check the water for any bugs. On the other hand, one who transfers well water into a cup would be required to first check the water before drinking it as any bugs which might be present would no longer be in their natural source, and are therefore forbidden accordingly. [17] In the olden days unpasteurized vinegar would often breed certain bugs which were permitted to be consumed along with the vinegar. [18] Such vinegar is no longer on the market today.

It is interesting to note that the Torah only prohibits insects which are visible to the naked eye. [19] Insects which are only visible through a microscope are permitted to be consumed in the normal course of eating. [20] So too, insects that have fully withered and dried are often permitted, as well. Even when worms and bugs are technically permitted, it is commendable to make the effort not to consume them due to the concern of “baal teshaktzu”, the prohibition to engage in anything which might be considered disgusting. [21] Indeed, even worms that are technically permitted to be eaten should be avoided as they are said to cause both spiritual and physical harm. [22]

Some time ago a controversy erupted in New York City concerning bugs which were repeatedly found in the public water supply. As a result, a number of halachic authorities ruled that the New York City drinking water must be filtered prior to consumption. Other authorities insisted that this was not required as the bugs were not visible to the naked eye and therefore permitted. It was also suggested that the municipal water supply chain is halachically identical to a cistern in which case there would be no prohibition on consuming such bugs. According to the latter approach, however, the water would only be permitted when drunk directly from the faucet – certainly an unrealistic arrangement for a household that regularly drinks tap water. [23] [1] Vayikra 11

[5] Y.D. 84:16

[6] Chullin 67b

[7] Taz; Y.D. 89:4

[8] Aged cheese is loosely defined as being aged six months or more. Shach Y.D. 89:15

[9] Y.D. 84:14, Rema Y.D. 84:16

[10] Shach Y.D. 84:46

[11] Y.D. 84:6

In our time religious authorities have made insect inspection a regular part of kosher preparation in homes and in restaurants and catered parties. The intricacies and the time involved in implementing their standards has had the effect of significantly raising the cost of kosher food to consumers and made keeping a kosher home more difficult in an era when time to prepare meals in the modern home is diminished in what is often a two working parent home.²

Part of the change is that many of the insecticides that were available to the market in the past have been prohibited and so insect infestation has increased,³ but as we have seen in Rabbi

[12] Y.D. 84:7

[13] Y.D. 84:14

[14] Y.D. 84:17

[15] Y.D. 81:8

[16] Y.D. 84:1

[17] Rema Y.D. 84:1. For more on bugs and water see: Darkei Teshuva 84:9,28

[18] Aruch Hashulchan Y.D. 84:36, Binat Adam;Klal 38:49, Tuv Taam V'daat;Kuntres Acharon 53

[19] Y.D. 84:4

[20] Aruch Hashulchan YD, 84:36[21] Avoda Zara 68b

[22] Shabbat 90a

[23] For more on the New York Cite water supply controversy see: The Laws Of Pesach (Rabbi Blumenkrantz) Chapter 29

² In the OU Kosher Guide to checking Produce and More there is a chart on how to inspect various fruits and vegetables. For Broccoli they write, " Fresh broccoli, stems: Wash thoroughly. Fresh broccoli, whole: Parboil for no more than 1 minute. Segregate each head individually. Look carefully at the branched area of each floret, in the crevice formed by two branches forking out from a single trunk like a Y; spread apart each floret head and look through the florets, into the branch area; if 1 or 2 insects are found, continue examining the remaining sections of head; if 3 insects are found, the entire head should be discarded". For open leaf lettuce they write, " Cut off lettuce base; soak lettuce in cold water with several drops of concentrated, non-scented liquid detergent or vegetable wash; agitate leaves using a strong stream of water to remove all foreign matter and soap from leaf surface or use a vegetable brush on both sides of the leaf; check leaves under direct light." If that was not tedious enough the chart states, "This is only a brief summary to serve as a quick reference guide. Please do not rely on this summary alone."

³ It is estimated that the average American eats 1 pound of unwanted bugs every year,
<https://www.rodaleorganiclife.com/wellbeing/grossest-bugs-you-dont-know-youre-eating/slide/1>

Enkin's article there are many additional factors, and following the most stringent positions is not the only option, neither today nor through the many centuries of halakhic rulings.

We will examine the literature on what constitutes a presumption of infestation that needs to be dealt with, or conversely what constitutes a presumption of non-infestation, that would eliminate the need to examine every fruit or vegetable.

If inspection is needed what is the standard for the inspection?

Is the naked eye sufficient or are additional external tools ranging from light boxes to jeweler's loops or magnifying glasses needed?

Are we required to take courses to learn how to discover bugs that we would otherwise not see with the naked eye?⁴

If actions need to be taken, what treatments are needed to be implemented, ranging from washing with water one or more times, severe agitation, or solvents that loosen bugs from their hosts?

Are there some fruits or vegetables that are so infested with bugs that dig in deep to their hosts that nothing will release them?

Is Bittul (nullification) a tool that we can use?

Determining the Infestation Level of a Crop

In halakhah, there are three levels of insect infestation. Foods typically infested with insects the majority of the time at an infestation level of 50% *of the crop* or higher are considered *muhzak betola'im*, and one must always check for bugs *mid'oraita* (as a Torah obligation).

Foods that do not have insects the majority of the time but are nevertheless consistently infested must be examined *mid'rabbanan* (as a Rabbinic obligation).⁵ This level is called *miyut hamatzui* and is often assumed to be 10% *of the crop* or higher.⁶

⁴ Kashrus magazine has a website called, BugFreeKosher, which offers a course "You can't claim to be bug-free until you've learned how to spot insects, how to check fruits and vegetables, and you've been successful. Learn how by signing up for a course. Call us at 718-336-8544; kashrus@aol.com."

⁵ Shakh Yoreh Deah 84:28, indicates that examination of food products for the presence of insects is required as a matter of normative law if insect infestation represents a *mi'ut ha-mazui*, and Siftey Daat 84:28

⁶ Teshuvot Dvar Shmu'el, no. 260. Mishkenot Ya'akov, Yoreh De'ah, no. 17, asserts that 10% constitutes a *mi'ut ha-mazui*. Bedikat ha-Mazon keHalakhah reports that this position was also endorsed by R. Shlomoh Zalman Auerbach. However, the same author reports that R. Joseph Shalom Eliashiv, R. Nissim Karelitz and R. Chaim Kaniewsky maintain that *mi'ut ha-mazui* should be defined as 5%. In the second edition of that work (Jerusalem, 5765) Rabbi Eliashiv is quoted as maintaining 4% is a *mi'ut ha-mazui*. R. Samuel ha-Levi Wosznier, Teshuvot Shevet ha-Levi, IV, no. 81, challenges the relevance of the sources upon which that definition is based and asserts that examination may be required even when the percentage is much lower. However, Shevet ha-Levi fails to present a precise definition of *mi'ut ha-mazui* and implies that a decision to declare examination mandatory is to be made "in accordance with the judgment of the decisor." Cf. also, Teshuvot ha-Rivash no. 191, who asserts that a *mi'ut ha-mazui* is to be defined as a frequency close to one half (*karov le-mehezah*))

Foods whose level of infestation is infrequent and inconsistent, (typically below 10%) fall into the category of miyut she'eino matzui and are permitted without checking at all.⁷

How does one determine the level of infestation in the vegetables before you?

As a homemaker I'm not sure there is a way to determine the status of any crop at any given time. In a global market at any meal we could be eating fruit and vegetables from all over the world. Kashruth organizations have their own ways of determining a crop and then deciding the status of the crop and whether they can authorize or certify a crop. The OU in a "Summary of Halchic Issues Regarding Insects" Feb. 16, 2005 states, ". There are two methods of calculating whether a vegetable does or does not have a 10% infestation:

a. Product: 10 heads of lettuce or 10 containers of blueberries are checked and if one or more bugs are found then the batch is rejected. This is the opinion of Rav Elyashiv and Rav Shlomo Zalman Auerbach. Rav Belsky accepts this opinion.

b. Serving: 10 servings of lettuce or blueberries are checked and if one or more bugs are found then the batch is rejected. This is the opinion of Rav Schachter who reasons that a vegetable is permitted if less than 1 out of 10 people eating from it will eat a bug.

3. Generally, there is little practical difference between any of the aforementioned opinions because most types of vegetable either clearly do or do not contain a miut hamatzui of bugs according to all opinion. In cases where a disagreement occurs, the position is formulated based on a consensus of its Poskim."

But this tshuvah is being written for homemakers and caterers and restaurants so the process of determining a whole harvest from a field for the purpose of certifying the whole crop is outside our scope.

There are a number of ways that we can potentially learn the status of the fruits and vegetables before us. Kashruth agencies announce when a certain crop is highly infested, muhzak betola'im, or infested enough, miyut hamatzui, and needs inspection, or when a crop does not need to be inspected because of low levels of infestation, miyut she'eino matzui.

In addition we can avoid foods that are *often found to be more* infested like organic raised crops that come unwashed directly to us from farms.⁸

⁷ Mishkenot Yaakov Yoreh Deah 17

⁸ <https://www.100daysofrealfood.com/bugs-in-my-organic-food/> In a private correspondence with the author, Professor Joe Regenstein, a food scientist from Cornell wrote, "With respect to your issue, I strongly agree with your position, but not sure how much actual data might exist comparing organic versus traditional crops. I think the key is that these crops are proud of the fact that they use less pesticides, i.e., they use some natural

Unfortunately many hashgachot have become stricter in their definitions of infestations and cast a broader net over the produce. In addition many consumers do want the organic and farm to table food available to us from farmers' markets and consumer supported agriculture. Therefore the need to understand how and when to inspect fruits and vegetables becomes important. On this front there are considerably more leniencies to rely on than one might have assumed based on all the publicity on this subject.

In Hamodia Magazine July 19, 2006, Rabbi David Bistricher, a rabbinic coordinator for the Orthodox Union wrote about a question in 1986 that was sent to Rabbi Shlomo Zalman Auerbach and Rabbi Joseph Shalom Elyashiv, about vegetable checking requirements for restaurants and caterers. Because of the large volume of vegetables there was a worry that the inspection would not be done correctly.

In his response Rabbi Auerbach concluded leniently, (Minkhat Shalom 2:63) that checking would not be required. Several reasons were given and much of the responsum was based on the teshuvah of the Rashba and agreed to in the S.A. Y.D.84:9. The Rashbah writes that cooked vegetables, which ordinarily require checking but cannot be examined after cooking are permissible after the fact. He provides two reasons. The first is based on the law regarding checking the lungs of an animal after slaughter. If the lungs were lost we cannot assume the animal is a treifa,(not kosher).⁹ Likewise he concludes that if the vegetable cannot be examined we do not assume that it contains an insect. Furthermore he suggests that there is an issue of safek sefeka, a doubt on a doubt, that allows us to be lenient. The first safek, is whether an insect is actually in the vegetable; an additional doubt is that if an insect was present perhaps it disintegrated and became nullified in the food during the cooking. He does limit this ruling only when the infestation is at the level of miyut hamatzui.

Rabbi Elyashiv (Kovetz Teshuvot 74) agreed with Rabbi Auerbach's conclusion but he disagreed on a number of the points that led to the decision. He writes that since restaurants and caterers used large quantities of vegetables it is difficult to assume that infestation levels in a batch would be limited to miyut hamatzui, and the vegetables therefore should be considered as muhzak betola'im. This means that an insect is certainly present and so we do not rely on a double safek. But he did agree with the other position of the Rashbah, which compared checking vegetables to inspecting the lungs of an animal and this could be relied on during a shaat hadehak.

pesticides that are simply not as effective. So logic would dictate that they have not made the same effort as traditional crops to be insect free. Therefore, one would have to be more rigorous in doing the inspection".

⁹ Yoreh Deah 39:2

Given the large amount of vegetables to be checked by a synagogue caterer or a restaurant and the time and cost of procuring labor for the inspection we can consider the circumstances a shaat hadehak.

WHAT ROLE DOES THE PRINCIPLE OF BITTUL (NULLIFICATION) PLAY IN PERMITTING BUGS?

Rabbi J. David Bleich, in an article in Tradition 38:4, 2004 writes on the topic of " BOILED WATER AND COOKED FOOD":

"There are circumstances in which bittul, or nullification, may be applicable. With regard to fruit that requires examination for possible insect infestation, Shulhan Arukh, Yoreh De'ah 84:9, rules that, if the unexamined fruit has been cooked in a manner that renders subsequent examination impossible, post factum, the cooked fruit is permissible. As explained by Shah, Yoreh De'ah 84:29, that ruling is predicated upon the principle of sefek sefeika or "double doubt," i.e. first, the presence of an insect is doubtful and secondly, even if present, it is possible that the insect has been crushed and hence has become nullified in the larger quantity of permissible foodstuff. Citing earlier sources, Shakh concludes that, in a locale in which infestation by insects has been established "huhzeku," the presence of insects in the fruit must be regarded as tantamount to a certainty and hence the food is forbidden. 44 However, Taz, Yoreh De'ah 84:17, disagrees with Shakh in maintaining that, upon cooking, the foodstuff is permissible even if it is known that such fruit is commonly infested. According to Taz, even if there is but a "remote possibility" (zad rahok) that no insect was present, the food is permissible on the basis of the principle of sefek sefeika. 45 Hokhmat Adam 38:5 explains Taz' position on the basis of the fact that the rule that a beryah cannot be nullified is the product of a rabbinic edict. Hence, in principle, if there is a question with regard to whether the prohibited organism is still a beryah or whether it has lost that status by virtue of having become crushed, the food may be regarded as permissible on the basis of the rule that rabbinic edicts do not extend to situations of doubt. That principle, explains Hokhmat Adam, does not apply in cases of itkhazek issura, i.e., in situations in which the object was known with certainty to have been forbidden and the sole question is whether its status has changed. Hence, explains Hokhmat Adam, Taz maintains that, so long as there exists even a "remote possibility" that there never was a forbidden insect in the fruit, the foodstuff was never known to have been forbidden (ithazek issura) and hence, despite the fact that the majority of such fruit is infested, the cooked fruit is permitted because of the possibility that any organism that was present may have been crushed. Since it is certain that the insect represents but a tiny fraction of the entire quantity of cooked food, the resultant doubt is only with regard to whether the rabbinic edict canceling nullification in cases of beryah is applicable. Since the doubt is with regard to the applicability of a rabbinic prohibition, the food is permissible.) "

Nevertheless even if there are ways to avoid inspection, who wants to eat bugs? Therefore a reasonable method of inspection would be greatly appreciated.

METHOD OF INSPECTION

For both hygiene and aesthetics we would certainly want to wash all fresh produce. During that time of washing it would be natural to implement an inspection. The question becomes what are the satisfactory minimum requirements to inspect for bugs? Is an inspection with the naked eye satisfactory?

Again Rabbi J. David Bleich in a masterful article in Tradition 38:4, 2004 reviews much of the halakhic discussion on the subject as a prelude to dealing with the copepod question that became a cause célèbre in New York City water.

These tiny aquatic crustaceans are millimeter-long zooplankton common both in the ocean and in ground water. These creatures have a thick body, long antennae and numerous legs. One of the many issues raised in that discussion had to do with whether copepods were visible to the naked eye.

As Rabbi Bleich frames the question, "In a nutshell, the problem and its resolution requires a determination of whether, in seeking to abide by the commandments of the Torah, a Jew must be concerned with subvisual phenomena or only with that which is detectable upon gross observation?"¹⁰

This then is the question we need to resolve as it affects when and how we are required to inspect for insects in our food.

A main source with regard to the issue of microscopic organisms is the comment of R. Yehiel Mikhal Epstein,¹¹ who writes;

"I have heard that every drop of water, and particularly of rainwater, is full of miniscule creatures that the eye cannot see. In my youth, I heard from a person who had been in distant places and saw in water, by means of a lens of exceedingly great magnification, [i.e., that magnifies] tens of thousands of times, many species of creatures. In light of this, how may we drink water...? Indeed, the truth is that the Torah did not forbid that which the eye cannot perceive, for the Torah was not given to angels. For, if not so, many scientists have written that the entire atmosphere is also full of extremely miniscule creatures and that when a person opens his mouth he swallows a number of them.... Even if this is so, since the eye cannot perceive them, it is of no significance. However, that which the eye can see, even [if only] against the sun and even if it is the tiniest of the tiny, is a veritable insect."

Rav Moshe Feinstein also discounted the acceptability of microscopic evidence.¹²

¹⁰ Tradition 38:4 2004 p73

¹¹ Arukh ha-Shulhan, Yoreh De'ah 84:36

¹² Iggerot Mosheh, Yoreh De'ah, II, no. 46

It is the policy of the OU that, " Bugs which are not visible to the naked eye are not forbidden because Hashem didn't expect us to check our fruit with a magnifying glass or microscope.¹³ There are small bugs which can be seen as dark spots with the naked eye but it is impossible to discern that they are bugs unless one uses a magnifying glass. People who are experienced at checking vegetables for bugs can identify these spots as bugs without using a magnifying glass."

May we eat vegetables which contain these spots?

There are Poskim who say, based on Responsa Rashba I:275 which is cited in part in Rema 84:6, that if experience has shown that such "spots" are in fact bugs then one may not eat the vegetable without removing the spots.

Rav Schachter, posek of the OU, clarified that this is limited to spots which the average person can learn to identify as bugs with a minimal amount of practice. Bugs which can only be identified by "experts" are not forbidden.

If the dark spots discussed above are not identifiable as bugs but are seen to "crawl" across the fruit or vegetable, then they may not be eaten."

From this statement we see that the OU authorities have ruled that if the average person who is not trained to discern bugs does not identify a non-moving speck as a bug then even if it is a bug it is not forbidden.

I would also add that in the Talmud (BT Shabbat 74b) in a discussion on the melakha of spinning wool they talk of the women in the desert (Ex 35:26) who could spin wool while it was still attached to the sheep but the gemara rejects the use of this case as a precedent because the women in the desert had extraordinary skills and "hokhma yetera shaani...". Spinning wool on sheep is extraordinary and so if done on Shabbat it was not a violation of an av melakha, but we do not learn lessons for the rest of us from those with extraordinary skill. So too in seeing bugs there is normal wisdom and extraordinary skill, and normal is the standard that we should be held to.

Rabbi David Bistricher concludes in his article in Hamodia, "The position of most poskim is that Torah-observant, God fearing Jews should be capable of identifying insects without extraordinary means (See Darkhei Teshuvah 84:94, Aruch Hashulhan Yoreh Deah 84:36, Igrot

¹³ OU, summary of halakhic issues regarding insects, February 16, 2005

Moshe Yoreh Deah 2:146). Standard insect characteristics to look for when checking include antennae, legs and wings. If these features are noticed, the insect is prohibited regardless of its size." ¹⁴

In an article in Daf Hakashrus Vol.25/No.1 Nov 2016, *Rabbi Bistricher* again reiterates the OU position that, "Magnification is not required when checking, although it may be used as an aid for training purposes or to help check faster. Insects that cannot be properly identified whatsoever unless magnification is used, are permitted.

He cites Shelot Utshuvot Tov Taam Vedaat Kuntros Aharon 2:53 dealing with checking rice with magnification, that we do not have to worry on anything found out by magnification for either leniencies or stringencies. And the Binat Adam, 34 and Arukh Hashulhan Y.D. 84:36 permitted that which could not be seen by the naked eye using only sunlight.

If that is the halakhic standard why is there so much discussion in the Jewish media about bugs? Why are there hashgahot that refuse to serve berries or brussel sprouts or broccoli? Why are there light boxes and mashgihim spending hours of their day looking through every leaf of every vegetable that will be served in the restaurant or catering hall that day?

I believe that the answer can be found in the quest for the Jewish "holy grail", the bug free meal; and those who market their hashgahot have been judged by the intensity of their pursuit. Yet the reality is that no one has been able to meet that goal. I have been monitoring the literature, the rulings and changing practices for over 15 years, though the pursuit to find bug free vegetables can be documented to an attempt 35 years ago ¹⁵ and the only consistent result has been the creation of the newest system to be put into place because the previous "savior method" failed to produce the result.

At first there was triple washing, then when that proved unsuccessful there was washing with special soaps that would loosen the bugs from the plant and would then make washing successful. When that failed there was individual inspection of every leaf with a light box. Meantime there were attempts to only eat vegetables grown in special hot houses that were devoid of bugs, but that never worked perfectly and the amount of product available is too limited and too expensive. ¹⁶

¹⁴ Hamodia July 19, 2006

¹⁵ Kashrus magazine October 2016 P 40

¹⁶ The Badatz of the Eida Haharedit recently released and promoted its new logo on Gush Katif greens (items grown under controlled conditions)stating, "Specially grown leafy vegetables, approved on condition of washing. It is required to separate the leaves, to soak them in soapy water for 3 minutes and to wash them off very well under the faucet"

The light box method though incredibly labor intensive and therefore expensive (and I don't believe widely practiced in most private homes¹⁷) has also failed to meet the goal.

In an article in Kashrus Magazine October 2016, entitled, "What is The Best Method for Checking Vegetables?" the newest entry in the field is the thrip mesh or shmatta bedikah. Rabbi Tendler of the Star-K reports, "there is no question to us that it is far more effective than the traditional leaf by leaf methods. We found years ago that even trained mashgichim who checked leaf by leaf and then tried the thrip cloth method, found bugs that had been missed using the leaf by leaf. It is also much faster and simpler for large quantities." ¹⁸

Unfortunately like all previous new methods this too is not a universally accepted position. Rabbi David Kayser of the Atlanta Kashruth Commision, the AKC said, "I prefer checking leaf by leaf though it is more time consuming. Often, I must use a quicker method and have used the shmatta method. I personally check a sample of the leaves afterwards. In the past, I have found worms in the leaves as well as aphids attached to the leaves that did not show up in the cloth. Napa Cabbage and Red Leaf lettuce are the most challenging for me to check".

Rabbi Tendler acknowledged that broccoli is by far the most challenging to check because "it takes significant strength to ensure proper agitation is achieved that will allow the water to get in between the florets. Not all of our mashgichim are trained in or perform vegetable checking, but even among the mashgichim that are only a handful have been approved to check broccoli."

If only some mashgihim are trained to check vegetables, and a small fraction of them can check broccoli what do we expect the homemaker to do? ¹⁹

¹⁷ While on a kosher tour in South Africa I asked the assigned mashgiach what he did about vegetables. He told me he was trained and required by his Vaad to wash every vegetable and to use a light box for every leaf. His father was an Orthodox Rabbi and I asked him if his mother did the same at home? He gave me this incredulous look and said his family was more liberal and his mother didn't do what he was doing while on assignment for the Vaad.

¹⁸ Thrip mesh is a 60 micron piece of mesh. The shmatta bedika as described by the Star K is to; 1 Wash produce well.(note: Use warm water for broccoli and cauliflower.) 2 Prepare a basin with water and a non-bleach and non-toxic dishwasher detergent solution. The water should feel slippery. 3 Agitate the produce in the solution for 15 seconds. (Note: For broccoli and cauliflower soak for 30 seconds before agitating.) 4 Remove the produce from the basin and shake off excess water over the basin. 5 Pour water through the thrip cloth. 6 Check the thrip cloth over a light box for any insects. 7 If insects are found, repeat steps 1-6. This can be done up to three times. If insects are still found on the third try, the produce should not be used. To see a video of the shmatta bedika go to <https://www.star-k.org/articles/articles/insect-checking/1851/thrip-cloth-method/>

¹⁹ The most recent review by the CRC of their fruit and vegetable policy, dated 07/11/17 acknowledges the near impossibility of a comprehensive inspection by a homemaker or even a regularly trained mashgiah when they warn:

The same article reported on a recent check of Manhattan supervised restaurants that found insects in far too many establishments. There was even a video taken of a Caesar salad without dressing, bought at a certified restaurant *and* found to contain eleven insects.

Bags of OU certified barley were later found to be infested. Yet the pursuit for bug free vegetables and fruits continues with everyone claiming that their system is better than the others and therefore the others are inadequate or suspect.

In a follow up article, Kashrus Magazine issue 183, March 2017, *asked* 1371 Hashgahot to find out their policies and share them with the public. One hundred responded though not all permitted their responses to be published. Some used the shmatta method, some a light box, some the hazakah method where by a small sample is checked and if bug free the rest is allowed uninspected. *What* became obvious is there were considerable differences between them and how often the decisions were mutually exclusive of each other.²⁰

"WARNING!! This guide is primarily directed towards those experienced in the inspection of produce for insects. If you have never done so in the past, the cRc does NOT recommend that you start on your own, assuming that by reading the guide and policy, you are experienced enough and capable to do so. The actual insect may not be what you are expecting. They are not flies, roaches or spiders, although these would certainly be a problem as well. Most of them are very small and hard to find due to their size and color, with some being as small as the period at the end of this sentence."

²⁰ In Nashville hazaka is used for most vegetables unless it is an organic crop which is known to have issues. In such a case they do leaf by leaf inspection.

In Dallas no shmatta bedika is done but large lettuce is washed leaf by leaf. Small leaf vegetables such as parsley or mescaline mix are washed with soap and the clean water is checked.

In Agoura Hills California the shmatta bedika was tried and abandoned because it was cumbersome, difficult to work with and only effective when dealing in small quantities. Therefore for their caterers, restaurants camps etc. they use only romaine hearts, triple washed salad greens that are then washed and inspected by their mashgihim and the romaine leafs are looked at leaf by leaf. The triple washed mixes are washed in a sink basin with a vinegar or salt solution but NEVER with dishwasher detergent that many others use because it is prohibited by the FDA due to the toxicity of the chemicals, some of which accumulate in the body over time.

In Las Vegas they will use the shmatta bedika but not the hazaka method but you will not get artichokes, broccoli, broccoli rabe, brussel sprouts, cauliflower and parsley. Atlanta uses the shmatta bedika, leaf by leaf, as well as the hazaka method for iceberg lettuce and cabbage.

Finally from Lakewood you get a harangue about the ineffectiveness of the shmatta method. "A shmatta bedika by one that is not trained and tested is not worth anything. You'll still have infestation. By celery or other veggies with leaf miners, a shmatta bedika does not work, Likewise, for thrips in onions scallions etc., a shmatta does not work. One must be trained in the leaf by leaf ("tevias- ha'ayin" method). Just looking without training does not work."

Therefore in determining our recommendations we are reminded that the pursuit of bug free is not in our grasp and that the halakha long ago relieved us of this undoable burden.

So when preparing fruits and vegetables what *should the consumer do?*

As demonstrated above, our halakhic standard is a visual inspection with the naked eye under sunlight or its artificial equivalent. This inspection would satisfy our obligations to refrain from eating bugs. What follows are some practical suggestions for fulfilling this obligation. It bears repeating that while there are many guides and systems for inspecting produce and those who wish to use them certainly may, doing so is above and beyond the minimal halakhic standard needed to fulfill the Torah and the Rabbis' rulings.

The inspection begins when purchasing the produce. *One should* search out healthy looking, blemish free produce. If onions or cabbage have a gash or a crevice in their outer leaves it is a strong sign of a probable presence of bugs. Discoloration anywhere in the product is a sign to skip the item.²¹ Romaine hearts rather than whole romaine lettuces should be purchased because the outer leaves have a much greater degree of bugs (alive or dead) caught in the curls of the leaves. If the bottom of the bag is filled with a brownish color it should be avoided. Whenever *possible* one should buy pre-washed salad mixes. Some may wash these as well, for an added precaution.²²

Organic products and or farmer's markets or direct from the farm foods have a greater risk for bugs, but come with the benefit of reduced carbon footprint, and or no or lesser amounts of pesticides or storage issues. It is permissible to use them but the buyer should be aware that greater caution including more rigorous washing and closer inspection is needed.

Some may prefer to begin with a soaking in a container even before the inspection of the vegetable to allow for dirt and bugs to float to the top if they are present. If in the visual inspection there is any dirt or something that cannot be identified, the produce should be placed in a sink or a basin with water and agitated to see what comes to the surface. If it is dirt or a bug the water should be drained and the process repeated. If necessary it should be repeated a third time. If after three times bugs are still found the product should be given away or discarded.²³

²¹For a long time I stopped buying brussel sprouts that were pre-packaged because when I came home I discovered some were yellow. I sliced one open and in the midst of the yellow was a wiggling worm. I now only buy loose ones that I can inspect or prepackaged that have a lot of visibility and then inspect each piece and if the outer leaves are green but dirty I remove one layer at a time until I see it blemish free.

²² Some bags of prewashed produce *still* advise washing the product before using

²³ S. A. Y.D. 84:10

Broccoli and cauliflower should be washed and agitated in water with some added salt or vinegar which causes the bug to detach from the vegetable and float. Then when doing the above inspection, bugs can be spotted and removed.

For cabbage the top few leaves should be removed before beginning washing and inspection. Green asparagus after the washing should be inspected carefully as the tight leaves of the top can conceal bugs.

Strawberries should be cut above the green leaves section and into the first part of the fruit, then washed as described above.

*According to the CRC's guide, raw or dry beans and grains processed in the United States and most other countries are centrifuged to remove bugs. As long as beans are stored in cool and dry conditions they will remain bug-free for many months. For this reason, there is no need to check beans for insect infestation in the United States. Beans and grain processed in another country or if you have reason to believe the beans may not have been stored properly may require further inspection for insects.*²⁴

A sealed bag or box of pasta or grains could develop an infestation that grew while in a consumer's pantry but was not apparent when it was bought, so a cursory inspection before use is recommended.

Frozen whole vegetables have the same status as fresh vegetables and would need the same inspection method. According to the CRC guide frozen fruit have less of a concern than fresh fruit. Their guide to frozen fruit states, "All canned, jarred and frozen fruit is acceptable without certification unless they contain any natural and/or artificial flavors or *colors*, Carmine (Used for Coloring in Cherries), *grape juice or the words "fruit juice", or are canned in Israel or China.*"²⁵ At the same time, they currently do not permit fresh raspberries, blackberries mulberries, and allow strawberries only after a draconian preparation which would make the consumption of strawberries pointless. I would advise the above-mentioned regiment of washing and inspecting the berries and if no bugs are visible they may be consumed. If bugs are found and after three washes they continue to be present, they should be discarded.

If you are eating a salad and discover a bug you should remove the bug and inspect your salad. If you find one more bug remove it as well. If you find 2 or more bugs discard the salad.²⁶

²⁴ CRC July 11 2017 guide, <http://www.crcweb.org/fruit%20&%20veg%20guide.php>

²⁵ China has a horrible reputation for food adulteration and Israeli produce has issues of Maaser and trumot.

²⁶ S. A. Y.D. 84:10 while referring to cooked vegetables three is the number that if found on the vegetables themselves, raise suspicion that there are more and the food is disallowed. If this is allowed for cooked foods

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Bugs in vegetables and fruit are a realistic concern for kosher consumers. Our obligation is to inspect with the naked eye and under sunlight or its artificial equivalent all fresh produce to ascertain that no bugs are visible. The following are some suggestions for conducting the inspection.

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Romaine hearts rather than whole romaine lettuces should be purchased because the outer leaves have a much greater degree of bugs (alive or dead) caught in the curls of the leaves. If the bottom of the bag is filled with a brownish color it should be avoided. Whenever possible one should buy pre-washed salad mixes. Some may wash these as well, for an added precaution.

Organic products and or farmer's markets or direct from the farm foods have a greater risk for bugs, but come with the benefit of reduced carbon footprint, and or no or lesser amounts of pesticides or storage issues. It is permissible to use them but the buyer should be aware that greater caution including more rigorous washing and closer inspection is needed.

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Broccoli and cauliflower should be washed and agitated in water with some added salt or vinegar which causes the bug to detach from the vegetable and float. Then when doing the above inspection, bugs can be spotted and removed.

For cabbage the top few leaves should be removed before beginning washing and inspection. Green asparagus after the washing should be inspected carefully as the tight leaves of the top can conceal bugs.

where cooking may have removed the bugs from the food to the sauce, how much more for prepared uncooked food such as is found in a salad.

Strawberries should be cut above the green leaves section and into the first part of the fruit, then washed as described above.

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If one is eating a salad and discovers a bug, it should be removed and the salad inspected. If another bug is found it too should be removed. If three or more bugs are discovered the product should be given away or discarded.