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TALMUDIC METHODOLOGY
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KILAYIM

Three different prohibitions govern the practice of mixed planting. Trees may not be grafted or otherwise combined and grains cannot be mixed when sown. In each of these two instances, the produce is permissible to eat even though the actual act of planting is prohibited; hence the allowance to eat fruits from grafted trees. Only the third form of *kilayim*, the prohibition of *kila'ei ha-kerem*, mixing other seeds with grape seeds, yields a prohibition upon the resultant produce. Only *kila'ei ha-kerem* are "*assur be-hana'a*," prohibited to eat or to derive any other form of benefit from. The source of this prohibition is found in *Devarim 22:9*, which warns against planting seeds "*pen tikdash ha-milea'ah*," lest the resulting produce become "*kodesh*," which the *gemara* interprets as a reference to its being forbidden.

In describing the forbidden produce, the *pasuk* includes two different references – "*pen tikdash ha-mile'ah ha-zera asher tizra*." It describes the seeds (*zera*) as prohibited, suggesting that the prohibition develops *only* if the seeds and grapes were PLANTED together. However, the *pasuk* also describes GROWTH (*ha-melei'ah*), which implies that as long as the two seed types grew together an *issur* obtains. In several locations (see *Pesachim 25a*), the *gemara* infers two separate scenarios of *issur*. If the seeds were originally planted TOGETHER, the produce is immediately forbidden; if they were planted separately (e.g., divided by a wall) and then allowed to grow together (after the wall fell) they become forbidden only if they grew mixed together long enough that they increase in size. In this latter scenario, the mixed plant is considered *kilayim* once the joint growth of the plants equals 1/200 of their size before the mixture took place.

This *shiur* will address the second scenario of joint growth and how this rule is to be understood. Why should less than 1/200th growth be permissible but more than that fraction create a prohibition?

Rabbenu Tam assumed that this fraction reflects classic *ta'arovet* principles. Typically, forbidden material, when mixed with permissible food, yields an *issur* upon the entire mixture if it comprises up more than $1/60^{\text{th}}$ of the mixture. Some more severely prohibited foods impose a prohibition even in proportions less than $1/60^{\text{th}}$. For example, *teruma* can prohibit a mixture in quantities of $1/100^{\text{th}}$. Rabbenu Tam assumes that *kilayim* – which is more severe than *teruma* - creates an *issur* in a mixture when it is found in a quantity of $1/200^{\text{th}}$ of the total crop. Until the joint growth reaches a proportion of $1/200^{\text{th}}$ (for example, if it only grows $1/400^{\text{th}}$ of the original), the prohibited produce is nullified by the permissible produce which existed before the mixture took place. However, once the prohibited part of the crop reaches the magic number $1/200^{\text{th}}$, it cannot be cancelled by the permissible quantity and a prohibition emerges for the entire mixture.

Based upon this view, classic *ta'arovet* principles should apply to the $1/200^{\text{th}}$ rule of *kila'ei ha-kerem*. In classic *ta'arovet* protocol, we apply the rule of *kama kama batel*, which prevents independent insufficient quantities of *issur* from combining to form a sufficient quantity. For example, if *issur* fell into a *ta'arovet* in the proportion of $1/120^{\text{th}}$ and on the following day another $1/120^{\text{th}}$ fell in, the two quantities do not form the combined $1/60^{\text{th}}$ necessary to create *issur*. Each insufficient quantity is respectively annulled through the rule of *kama kama batel*. Accordingly, Rabbenu Tam asserted that if the $1/200^{\text{th}}$ accumulation of *kila'ei ha-kerem* is interrupted, the quantities cannot combine toward the $1/200^{\text{th}}$ proportion. For example, if the wall separating grapes and other seeds fell and the two grew jointly an amount $1/400^{\text{th}}$ of the original size, after which the wall was rebuilt and fell again, allowing a second growth of $1/400^{\text{th}}$, the produce is not forbidden. Even though the joint growth exceeds $1/200^{\text{th}}$, since the growths accumulated separately, they do not combine. Only if the quantities of joint growth occur without interruption can they form a total quantity of $1/200^{\text{th}}$ and be considered *kilayim*.

The Ramban disagreed with Rabbenu Tam, arguing that classic *ta'arovet* models do not apply to *kilayim* growth. Firstly, laws of *bitul* may not apply to growing produce. Typically, the laws of *bitul* pertain to items that lose their identity in mixture. Growing produce may retain their autonomous status, and the concept of *bitul* may therefore not be applicable (see *Nedarim* 58). Additionally, the Ramban questions the applicability of *bitul* models to *kilayim* because, in this case, there is no actual encounter between *issur* and *heter*. The original plant is permissible and the jointly grown produce is also

permissible – until it reaches the proportion of $1/200^{\text{th}}$. The concept of *bitul* only applies when one of the items in the mixture is forbidden and is nullified by the permitted matter. We can not say that growth of less than $1/200$ is nullified by previous growth because at that point the growth is still permissible and the rules of *bitul* do not apply. Accordingly, even less than $1/200^{\text{th}}$ should create a prohibition; even $1/400^{\text{th}}$ of the original growth is *kilayim* and it should not become *bateil* to the original matter since an encounter between two permissible items cannot create *issur*.

The Ramban in his comments to Bava Batra (2a), suggests a very different model. Until the grapes and seeds have grown to $1/200^{\text{th}}$ of their original growth, they cannot be considered as having grown JOINTLY. Once they have grown and increased by that proportion, they are considered mixed fruits, and therefore prohibited *kilayim*. Rabbenu Tam viewed the proportion as a CONTEST of prohibited matter vying with, and ultimately outweighing, original permitted matter; the Ramban viewed the proportion as merely determining a point of full union after which the ENTIRE ITEM achieves a status of *kilayim*, rendering a comprehensive *issur*.

Although there are numerous *nafka minot* to this question, we will mention three initial issues. First and most obviously, the Ramban disagrees with the Rabbenu Tam's theory regarding interrupted accumulation. According to Rabbenu Tam, two distinct fractions of interrupted growth cannot combine to form the requisite $1/200^{\text{th}}$ quantity. By contrast, the Ramban ruled that such accumulation would yield an *issur*. If the joint growth initially accumulated by $1/400$ and subsequently a wall was built and felled, a secondary growth of $1/400$ can combine to achieve full $1/200^{\text{th}}$ growth and the prohibition of *kilayim*. As *ta'arovet* models do not apply, the minimal quantities do not cede their status. Ultimately, any combined growth of $1/200^{\text{th}}$ indicates joint growth, rendering the entire produce *kilayim*.

A second difference involves the method of gauging the $1/200^{\text{th}}$ fraction. Although the *gemara* makes no mention of how to measure the growth, an ambiguous statement in the Yerushalmi leads to a fascinating *machloket* between the Rambam and Ra'avad (*Kilayim* 5:21). The Ra'avad adopts the more logical method: A specific quantity of the produce is detached and immediately weighed. If weighed x amount of time later, we can determine a ratio of "y" weight/ "x" time; Namely we can determine that over "x" time it lost "y" weight. The Ra'avad further assumes that this ratio

dictates weight loss after harvest AS WELL AS weight gain during growth. For example, if the plant decreases $1/800^{\text{th}}$ of its weight in 30 minutes, it can be said to grow that same amount in 30 minutes. As such, if the grapes and seeds grew together for 2 hours, they grew $1/200^{\text{th}}$ ($4 \times 1/800$) and are forbidden. This procedure allows us to determine the necessary time for joint growth- and ultimately *kalayim*.

The Rambam suggests a different method for determining this growth. Produce is harvested and the time it takes to shrivel – to lose all its moisture and die - is measured. This time reflects its "lifespan" in time "x." If the grapes and seeds grew jointly $1/200^{\text{th}}$ of this lifespan, they are prohibited. For example, if the produce desiccates entirely in 100 hours, then $1/200^{\text{th}}$ of its lifespan would be 30 minutes. If the grapes and seeds jointly grew this amount of time, the prohibition of *kilayim* develops. Unlike the Ra'avad, who gauged the prohibition by weight, the Rambam measured pure time.

Perhaps these different methods of gauging growth reflect different views of the dynamic of the *issur*. The Ra'avad saw $1/200^{\text{th}}$ as the point at which new MATTER outweighed old MATTER and imposed a prohibition. Since he agreed with Rabbenu Tam's thesis, he attempted to gauge the relative weight of the new growth compared to its original weight. By contrast, the Rambam may have agreed with the Ramban. *Kilayim* is not a contest of original permissible produce against new forbidden produce. Instead, we assess whether they have grown together, at which point the entire crop is rendered *kilayim*. Gauging this question of whether they have grown together can best be accomplished through measuring how long they have grown when compared to overall lifespan. Hence, the Rambam chose time as the gauge, whereas the Ra'avad chose weight.

Finally, the Rabenu Tam and the Ramban may disagree regarding a situation in which only one of the items accrued $1/200^{\text{th}}$ growth . For example, if the vegetables grew more than $1/200^{\text{th}}$ and the grapes did not, do we prohibit the grapes as well? Without question, the Rabbenu Tam would not envision a prohibition upon the grapes. The new matter which has grown is the only item that is prohibited. Once that new matter reaches $1/200^{\text{th}}$, the entire item becomes mixed with *issur* and prohibited. If the grapes did not grow this amount, there is no reason they should become prohibited based upon $1/200^{\text{th}}$ growth in the vegetable.

According to the Ramban, however, if only one of the items grew sufficiently it may indicate sufficient joint growth to create an overall status of *kilayim*. Perhaps 1/200th growth in one item can cause *kilayim* status and prohibition in both crops. In fact, some infer this from the Rambam (ibid), further suggesting that the Rambam adopted the Ramban's position about *kilayim* and not Rabbenu Tam's.