

HALACHIC AND HASHKAFIC ISSUES IN CONTEMPORARY SOCIETY

SERIES 2: 80 - FORBIDDEN FRUIT? GRAFTING & INTERSPECIES TREES OU ISRAEL CENTER - WINTER 2024

1. (יט) כִּי־תִצְוֹר אֶל־עִיר לְמִיּוֹם רַבִּים לְהִלָּחֵם עֲלֶיךָ לְתַפְשָׁהּ לֹא־תִשְׁחִית אֶת־עֵצֵהּ לְגִדּוֹם עֲלֶיהָ גֵרְזוֹן כִּי מִמֶּנּוּ תֹאכַל וְאַתָּה לֹא תִכְרֹת כִּי הָאָדָם עֵץ הַשָּׂדֶה לְבָא מִפְּנֵיךָ בְּמִצְוֹת: (כ) וְרַק עֵץ אֲשֶׁר־תִּדְּעַ כִּי־לֹא־עֵץ מֵאֲכָל הוּא אֶתָּה תִשְׁחִית וְכָרַת וּבְנִית מִצְוֹר עַל־הָעִיר אֲשֶׁר־ הוּא עֵשָׂה עִמָּךְ מִלְחָמָה עַד רִדְתָּהּ:

דברים כ"ט

Even in a time of war, the Torah prohibits cutting down fruit trees to aid the war effort, unless absolutely necessary. This mitzva requires us not to lose perspective of the broader picture, even in the midst of the stresses of war.¹

A] FRUIT-SALAD TREES

2. A Fruit Salad Tree is a tree that grows up to six different types of fruit all on the one tree. They are multi-grafted trees with different fruits from the same family grafted together on the one tree. All the fruits retain their own characteristics like flavour, appearance and ripening times. Fruit Salad Trees can be grown in a pot or in the ground, perfect for your balcony or backyard and are suitable for all climates.

<https://www.fruitsaladtrees.com/>

It is possible to buy trees with 6 fruits growing from the same stock, as a result of multiple grafting.²

In fact we discovered that we have such a tree in our garden! It lay dormant for many years, but following the planting of a (purebred) grapefruit tree close-by, it fruited prolifically, producing grapefruits in one side and oranges on the other!



The orange half of the tree



The grapefruit half of the tree

What are the halachic and hashkafic implications of such a tree? In particular:

- (i) was it permitted to create it?
- (ii) may we eat the fruit which grows on it?
- (iii) can we make a Shehechyanu on the fruit?
- (iv) does it require different terumot and ma'aserot to be taken for the different fruits?
- (v) can we make a beracha on the tree in Nissan?

1. This shiur will not examine the prohibition to cut down fruit trees, and bal tashchit. Be'H this will be the topic of a future shiur.

2. For a video on how to grow a tree with grapefruit, lemon, mandarin, orange, pomello and limes see <https://youtu.be/otCKI5FxJic>. But to pick up a tree from this nursery, you'll have to go to New South Wales in Australia!

3. The vast majority of fruit trees today are grafted. Most of them are grafted in a halachically permissible fashion (similar species, *min bemind*), while others are not (different species, *min be'eino mino*), and at times there is not a definite delineation of these categories (uncertain species, *safek mino*). There are various professional rationales involved in grafting. Nurserymen want the tree to produce a specific fruit and select the scion accordingly. The stock (also called rootstock), on the other hand, is selected for its compatibility with soil conditions, pest-repellent abilities, the quality and quantity of its yield, and its season of yield, among other factors.

Grafting: A Review - Torah VeHa'aretz³

B] GRAFTING AND BOUNDARIES - SOME HASHKAFIC CONSIDERATIONS

4. (יא) וַיֹּאמֶר אֱלֹקִים תְּדַשָּׂא הָאָרֶץ דְּשָׂא עֵשֶׂב מִזְרִיעַ זָרַע עֵץ פְּרִי עֵשֶׂה פְּרִי לְמִינֵהוּ אֲשֶׁר זָרְעוּ בּוֹ עַל הָאָרֶץ וַיְהִי כֵן: (יב) וַתֹּצֵא הָאָרֶץ דְּשָׂא עֵשֶׂב מִזְרִיעַ זָרַע לְמִינֵהוּ וְעֵץ עֵשֶׂה פְּרִי אֲשֶׁר זָרְעוּ בּוֹ לְמִינֵהוּ וַיֵּרָא אֱלֹקִים כִּי טוֹב:

בראשית א:יא-יב

The Torah emphasizes that each species of vegetation and trees was created separately and distinctly - 'lemino'.

5. כי השם ברוך הוא ברא עולמו בחכמה בתבונה ובדעת ... ובהיות יודע אלהים כי כל אשר עשה הוא מכוון בשלימות לענינו שהוא צריך בעולמו, צוה לכל מין ומין להיות עושה פירותיו למינהו, כמו שכתוב בסדר בראשית. ולא יתערבו המינים פן יחסר שלימותן ולא יצוה עליהן ברכתו.

ספר החינוך מצוה רמד

God, in His wisdom, created the world with full potential and with its separate species. We are not allowed to mix these - 'kilayim' - as this detracts from the perfection and blessing of Creation.

6. הטבע הוא משובח מאד במקומו הראוי לו, וכשהמלאכותיות נכנסת במקום הטבע, היא מקלקלת אותו. ... והנה אע"פ שהש"י ברא את העולם לעשות לשכלל ולתקן, מכל מקום צריך האדם בזהירות יתירה לעיין שרק ישכלל את הטבע, שהיא מתנת ... אבל כשמהרס אל מקום שהטבע צריך לעשות את שלו ומקלקלו ע"י מה שעוצר בעדו, אז הוא גומל לנפשו רעה. על כן הגבילה תורה את יכולת האדם בשינוי הדברים הטבעיים ואמרה בהמתך לא תרביע כלאים שדך לא תזרע כלאים ובגד כלאים שעטנו לא יעלה עליך, לא תזרע כרמך כלאים. כל זה להשריש בלב האדם את החיוב להיזהר שלא להרס את הטבע.

אצרות הראיה ח'ב עמ' 901

*Rav Kook stresses the importance of defining the boundary between enhancing nature and undermining nature.*⁴

7. דתניא רבי יוסי אומר: שני דברים עלו במחשבה ליבראות בערב שבת ולא נבראו עד מוצאי שבת. ובמוצאי שבת נתן הקדוש ברוך הוא דיעה באדם הראשון מעין דוגמא של מעלה. והביא שני אבנים וטחןן זו בזו ויצא מהן אור. והביא שתי בהמות והרכיב זו בזו ויצא מהן פרד.

פסחים נד.

God held back from some aspects of Creation, which he left for humankind's technological achievement. This is expressed positively as Adam inventing fire and cross-breeding animals at the beginning of the first 'working week'.

8. וַאֲלֶה בְּנֵי צִבְעוֹן וְאִיָּה וְעֵנָה הוּא עֵנָה אֲשֶׁר מָצָא אֶת הַיְמִים בְּמִדְבָּר בְּרֵעֵתוֹ אֶת הַחֲמָרִים לְצִבְעוֹן אֲבִיו:

בראשית לו:כד

In the account of the generations of Seir at the end of Parashat Vayishlach, there is a strange account of how Ana discovered the 'yeimim' in the desert, when he was looking after his father's donkeys.

9. האש והכלאים אף על פי שלא נבראו מששת ימי בראשית אבל עלו במחשבה מששת ימי בראשית. הכלאים (בראשית לו:כד) ונני צבעון איה וענה הוא ענה אשר מצא את הימים במדבר. מהו יימים? ... חציו סוס וחציו חמור. ... מה עשה צבעון וענה? זימן חמורה והעלה עליה סוס זכר ויצא מהן פרדה. אמר הקדוש ברוך הוא להם אתם הבאתם לעולם דבר שהוא מזיקין! אף אני מביא על אותו האיש דבר שהוא מזיקו. מה עשה הקדוש ברוך הוא? זימן חכינה והעלה עליה חרדון⁵ ויצא ממנה חברבר⁶.

תלמוד ירושלמי (וילנא) מסכת ברכות פרק ח

The Yerushalmi sees this as a warning against cross-breeding and the inadvertent creation of a more dangerous world.

3. Available, with a comprehensive overview of the topic at <https://en.toraland.org.il/beit-midrash/qa/grafting/>. For more information about Machon HaTorah VeHaAretz see <https://www.toraland.org.il/en/about/>
4. However, other Rishonim understand kilayim in very different ways. For the Rambam, it is intended to distance us from avoda zara.
5. A female snake and a male toad.
6. A highly poisonous lizard.

- According to the Yerushalmi, the possibility of cross-breeding was built into the natural order of Creation in potential from the six days of Creation - עלו במחשבה. Yet Ana was still culpable for releasing this into the world. Evidently, the fact that something is possible within the laws of nature, does not mean that it should be done.
- The unexpected consequence of Ana's experimentation was the creation of an entirely new and dangerous lizard. This appears to be a warning of the dangers of tampering with some elements of nature and the risks of dangerous inadvertent side-effects?
- How is this Midrash to be harmonized with that dealing with Adam on Motzei Shabbat? Chazal in Pesachim 54a comment that Ana produced a negative result because he himself came from an illegitimate and negative background. Perhaps Chazal are indicating that one's motivation and background⁷ are critical in assessing whether technological innovation is legitimate.

C] GRAFTING IN HALACHA

10. אֶת חֻקֵי תִשְׁמְרוּ בְהִמָּתֵד לֹא תִרְבִּיעַ כְּלָאִים שְׂדֵד לֹא תִזְרַע כְּלָאִים וּבְגֵד כְּלָאִים שֶׁעֲטָנוּ לֹא יַעֲלֶה עֲלֵיךְ

ויקרא יט:יט

The Torah specifies a number of prohibited mixes which it calls 'kilayim'.

11. **כלאים**: כלא means to hold back, to restrain. Hence כְּלָא, the prison. Transferred to organic creatures, "כלא" designates creatures, who, in accordance with God's law of "למינהו" (see Genesis 1:11-13), "hold back" their powers of reproduction from every creature that is not of their species, do not mate with them. Now כְּלָאִים means creatures who are so different to each other that Nature makes them "hold back" from each other. But as nevertheless the dual suffix "ים" - does not indicate just simply two, but always two belonging together, a pair - יָדַיִם, רַגְלַיִם etc, are not two feet, two hands, but a pair of feet or hands belonging together, etc. We believe that כְּלָאִים also means going together, pairing. So that the word כְּלָאִים itself already contains the complete idea of an unnatural pairing. They are כְּלָאִים - closed to one another by Nature, and Man has made them into כְּלָאִים - has brought them together in spite of their naturally not belonging together.

רש"ר הירש ויקרא יט:יט

There are 6 separate halachic prohibitions of 'kilayim':

1. Wearing shatnez - a mix of wool and linen.
2. Cross-breeding two animal species.
3. Using two animal species to haul or work together.
4. Grafting different tree species. A sub-category of this prohibition is planting one species on top of or inside another species.⁸
5. Planting other crop species in a vineyard.⁹ This applies to any non-woody edible plant, such as vegetables, beans, grain, poppyseed etc.)
6. Planting two crop species together or near one another¹⁰. Kilayim does not apply to species that are not eaten.

C1] THE EXTENT OF THE PROHIBITION

The Torah does not explicitly mention the grafting of trees as problem. What is the source of that halacha?

12. בהמתך לא תרביע כלאים שדך לא תזרע - מה בהמתך בהרבעה, אף שדך בהרכבה. ומה בהמתך נוהג בין בארץ בין בח"ל, אף שדך נוהג בין בארץ בין בח"ל.

קידושין לט.

Chazal learn a hekesh in the pasuk between the prohibition of kilayim with animals and with plants. Just as there is a prohibition of cross-breeding animals, so too there is a prohibition of cross-breeding plants

7. Rav Dessler (Michtav Me'Eliyahu Vol 1 p 270) writes that Tuval Kayin (see Bereishit 4:22) is blamed not for the development of new metal technology, but for his unwillingness to safeguard that technology, resulting in an expansion of weapons production.
 8. All of the prohibitions listed in 1-4 apply equally in Eretz Yisrael and chu'l.
 9. In Eretz Yisrael this applies on a Torah level and in chu'l on a Rabbinic level.
 10. This only applies in Eretz Yisrael.

13. כלאי האילנות הרי הם בכלל מה שנאמר שדך לא תזרע כלאים. כיצד? המרכיב אילן באילן כגון שהרכיב ייחור של תפוח באתרוג או אתרוג בתפוח הרי זה לוקה מן התורה בכל מקום, בין בארץ בין בחוצה לארץ. וכן המרכיב ירק באילן או אילן בירק לוקה בכל מקום.

רמב"ם הלכות כלאים פרק א הלכה ה

The Rambam¹¹ learns this to be Torah prohibition. It includes both grafting one species of tree into another and also cross-grafting a tree and a vegetable.¹²

14. ואסור לאדם לקיים כלאי זרעים בשדהו אלא עוקרן, ואם קיימן אינו לוקה.

רמב"ם הלכות כלאים פרק א הלכה ג

Furthermore, even keeping forbidden kilayim in one's garden is also prohibited.

15. אסור לקיים המורכב כלאים. אבל הפרי היוצא ממנו מותר ואפילו לזה שעבר והרכיבו.

שולחן ערוך יורה דעה הלכות כלאי אילן סימן רצה סעיף ז

So too the Shulchan Aruch rules that one may not maintain or sustain a non-halachically grafted tree in one's garden,¹³ although the fruit of the tree is permitted to eat¹⁴, even for the owner who grafted it.

As such, a non-halachically grafted tree may not be watered, pruned or nurtured.¹⁵ According to many poskim it should be cut down (preferably by a non-Jew) at least to the point of the graft, and this would not infringe the usual halacha concerns with cutting down fruit trees (but see below). R. Chaim Kanievsky rules¹⁶ that, even if the tree was grafted without knowledge of the prohibition, and by a non-Jew, it must be uprooted. Even if the Jew sold it to a non-Jew, he must buy it back (at full value) in order to uproot it!!!

16. (ד) אסור לקיים המורכב [עיינין בתשובת ח"ס סימן רפ"ח אודות ששאלו חכמי דיהודאי הדריס צמדינת הגר ע"ד שנהגו שמה מנהג אבותיהם צדיקה אשר רבים וכן שלמים קונים כרמים מערביים. וצחוכס אילנות נטועים שקדים ואפרסקין רובן מורכבים ומקיימין אותן. והוא מצוה צ"ע דכלאי אילן נובג בין צארץ בין צח"ל ואסור לקיימו! והאריך צ"ח ... ופלפל הרבה צ"ח ומסיק צ"ח סליקנא לדעת התוספות מותר לקיים צ"ח מנעש ... אפילו צ"ח. ולרמב"ם צ"ח מיהת שרי ... ואולי על זה סמכו חכמי דיהודאי שנהגו ע"פ מנהג אבותיהם אף על גב שמשפחות לשון הש"ע לא משמע להקל בכך! מ"מ למדנו זכות על העצב

פתחי תשובה יורה דעה סימן רצה ס"ק ד

The Chatam Sofer (19C Europe) raised the problem that many observant Jews of his time purchased land investments which included grafted trees, even though this clearly goes against the Shulchan Aruch. He tries to justify it on the basis that no direct action is involved and it was in chu"l. Nevertheless other poskim were very opposed to the practice.¹⁷

17. ולענ"ד נראה ללמד זכות על כלל ישראל דהנה יש לדקדק במשנה רפ"ח דכלאים דתנן כלאי הכרם אסורין לזרוע ולקיים וכו' כלאי זרעים אסורין מלזרוע ומלקיים וכו' ... כלאי בהמה מותרין לגדל ולקיים ואינן אסורין אלא להרביע וכו' ע"ש. ולמה לא חשיב כלאי האילן? ... אלא וודאי דבכלאי אילן ליכא כלל איסור דמקיים כלאים וטעמא רבה איכא במילתא! דהא כלאי אילן למדנו מכלאי בהמה מקרא דבהמתך לא תרביע כלאים שדך לא תזרע כלאים מה בהמתך בהרבעה אף שדך בהרכבה (קדושין לט.) ... וכיון שכל עיקר האיסור למדנו מכלאי בהמה הרי להדיא שנינו שם דכלאי בהמה מותרין לגדל ולקיים. וממילא דגם כלאי אילן כן הוא. ולכן השמיטם התנא משום דחד דינא אית להו. ועוד דבשלמא כלאי זרעים וכלאי כרם שעומדין עתה באמצע גידולן וכשיתגדלו יתלשום לגמרי שייך קיום בעת שהם בגידולם והיינו להניחם שיתגדלו. אבל בכלאי אילן האיסור הוא רק לשעה קלה ואח"כ עומדת העץ לעולם ואין עושים לה מאומה והפירות גדילים מאליהם והרי הם מותרים באכילה. וא"כ מה שייך בהם מקיים כלאים? ועוד דלקצוץ אילן איסורא נמי איכא משום לא תשחית את עצה. ולפ"ז לדעת הרמב"ם וכפי כל סוגיות הש"ס לא שייך כלל באילנות מקיים כלאים.

ערוך השולחן יורה דעה סימן רצה סעיף ז

The Aruch HaShulchan justifies the practice of observant Jews to own grafted trees due to the derivation by Chazal of the prohibition of grafting from cross-breeding animals. In the case of animals, there is no prohibition to raise the animal. So too perhaps this could be argued for grafting. Added to this is the halachic concern of destroying fruit trees.

As such, even though the practice of retaining non-halachically grafted trees is prohibited by the Shulchan Aruch, in light of the other rabbinic perspectives a she'elah should be asked before uprooting such a tree.

11. Other Rishonim, such as the Rosh, also learn in this way.

12. We will look below at how to classify the differences between trees and vegetables.

13. There is a debate as to whether this is a Torah or Rabbinic prohibition. Most poskim rule that it is Rabbinic - see Derech Emunah 1:41.

14. The halacha is stricter in the case of kilei kerem, where a vineyard is planted together with other grains/vegetables. In those cases it may also be prohibited to eat the produce. See <https://en.toraland.org.il/beit-midrash/articles/kilaim/kilei-hakerem/>.

15. There is even a halachic problem to water the plants around it where the tree will also benefit.

16. Derech Emunah 1:41.

17. See Chazon Ish Kilayim 2:11

C2] ARE NON-JEWS INCLUDED IN THE PROHIBITION?

18. תנו רבנן: שבע מצוות נצטוו בני נח: דינין, וברכת השם, עבודה זרה, גילוי עריות, ושפיכות דמים, וגזל, ואבר מן החי ... רבי חידקא אומר: אף על הסירוס. רבי שמעון אומר: אף על הכישוף. ... רבי אלעזר אומר: אף על הכלאים. מותרין בני נח ללבוש כלאים ולזרוע כלאים, ואין אסורין אלא בהרבעת בהמה ובהרכבת האילן.

סנהדרין נ.

Although there is basic agreement on the 7 mitzvot that non-Jews are bound by, there are minority opinions as to whether there are extras. According to the Tanna R. Elazar, non-Jews are also forbidden to graft trees! Why should this be?

19. ... בירושלמי פ"ק דכלאים תני בשם ר"א מותר הוא עובד כוכבים ללבוש ולזרוע כלאים אבל לא להרביע בהמתו כלאים ולא להרכיב אילנו כלאים. למה? מפני שכתוב בהן למיניהן. והרי דשאין כתיב בהן למיניהן!! אין כתיב בציווי אלא בהוצאה וכן דעת הטור

ביאור הגר"א על שולחן ערוך יורה דעה הלכות כלאי אילן סימן רצה סעיף א

The Gra quotes the Yerushalmi which learns a fascinating diyuk in the pesukim. God commanded the fruit trees to produce by min, but did NOT command the grasses! The grasses did this of their own accord. As such, the Yerushalmi learns that there was a command to the world - ie including Adam and the human world - that the integrity of the tree species should be maintained.

20. מפי הקבלה שבני נח אסורין בהרבעת בהמה ובהרכבת אילן בלבד.

רמב"ם הלכות מלכים פרק י הלכה ו

The Rambam rules like R. Elazar!!

On that basis, it would be prohibited (Lifnei Iver) for a Jew to ask a non-Jew to graft two trees. Nevertheless, other Rishonim and Acharonim rule like the Tana Kama in the Beraita that non-Jews are allowed to graft trees. Where the prohibitions are Rabbinic (eg maintaining an existing tree) some poskim are lenient in the case of a non-Jew. The poskim also debate whether a non-Jew could hire another non-Jew to do this.¹⁸

C3] WHAT IS CONSIDERED THE SAME 'MIN'?

Grafting is only prohibited when the scion and the stock come from different minim, as defined by halacha. How is this assessed and what if the situation is not clear? The halachic definition of 'min' may not accord with the taxonomy of species as defined by the biological sciences, or with common non-scientific comparisons and associations.

21. Not all trees are grafted. Generally fig trees, pomegranate trees, and date palms are not grafted. While it is true that most trees are grafted, among those that are, most are grafted with the same species (min bemino), and this is permitted. Examples of trees that are grafted in a permissible way include: grapevines, olive trees, carob trees, and mango trees (among others).
An example of a tree that is almost certainly grafted in a prohibited fashion is the pear tree; 90% of pear trees in Israel today (2018) are grafted onto quince rootstocks. There are some fruit trees that are sometimes grafted onto forbidden rootstocks, such as plums, peaches (including nectarines), and apricots. Citrus fruit is grafted onto the same species or onto rootstocks that are safek mino (where it is uncertain whether it is the same species).

<https://en.toroland.org.il/beit-midrash/qa/grafting/birkat-ha-ilanot-on-trees-grafted-in-a-forbidden-manner/>

22. הזאב והכלב, כלב הכופרי והשועל, העזים והצבאים, היעלים והרחלים, הסוס והפרד, הפרד והחמור, החמור והערוד - אף על פי שדומין זה לזה כלאים זה בזה.

משנה מסכת כלאים פרק א משנה ו

The Mishna lists groupings of animals which are often considered by people to be very similar, but which are halachically considered to be kilayim.

18. This would be on the basis that a non-Jew is not prohibited in lifnei iver. Some poskim are however machmir. An excellent article on this by Rabbi Yirmiyahu Kaganoff can be found at <http://rabbikaganoff.com/may-a-non-jew-own-a-nectarine-tree-for-that-matter-may-a-jew/>. Rabbi Kaganoff brings poskim who are even machmir concerning a non-Jew paying another non-Jew to water their grafted tree! This would be relevant for she'elot from Noachide fruit farmers (including tree-salad farmers in Australia!)

23. וכן באילן שיש שני מינין שדומין זה לזה בעלין או בפירות, הואיל והן שני מינין הרי אלו כלאים. כיצד? התפוח עם החזרד¹⁹, והפרסקין²⁰ עם השקדים, והשזפין עם הרימין²¹ - אף על פי שדומין זה לזה הרי הן כלאים זה בזה. אבל האגסים²² עם הקרוסטמלים²³, והפרישים עם העוזרדין²⁴ אינן כלאים זה בזה.

רמב"ם הלכות כלאים פרק ג הלכה ד

The Rambam rules that many trees that may have similar leaves or fruits can be kilayim.

24. ולימון וחרוג ואשכליות ותפוז יש להסתפק בהן אם כן מין אחד מלד כשתותן זכמה דברים

דרך אמונה הלכות כלאים ג:כג

The contemporary poskim debate whether all citrus fruits are considered one min or multiple minim.²⁵ Here, Rav Chaim Kanievsky leaves the matter as a safek.

In a situation where there a safek as to whether the scion and the stock are from the same min, most poskim allow the cultivation of the tree on the basis of a sfeik sfeika²⁶ - 2 levels of safek: (i) the prohibition to cultivate the tree may or may not be a Torah prohibition and (ii) the two species may or may not be considered the same min.

Most poskim regard all types of citrus as *safek mino*, which means: (i) they can be grafted and planted by a non-Jew (see below) and (ii) then cultivated by a Jew.²⁷

Grafting is now very common and complex. Professional botanical and also rabbinic guidance must be sought when buying fruit trees for planting.²⁸ One should also assess whether the seller can be relied upon (both practically and halachically) to confirm whether the tree has indeed been grafted, and if so how.

Planting trees, especially fruit trees in Israel is a fulfillment of the Torah mitzva of Yishuv HaAretz²⁹. However a mitzva cannot be fulfilled through an aveira and we need to be aware of the challenged of grafting in our times.

C4] MAKING BIRCAT HA'ILANOT ON A GRAFTED TREE

25. אבל אני מסופק מטעם אחר. דאולי כיון שפרי זה בא ע"י איסור לא שייך לברך שהחינו לראות פרי זה. שהוא נדמה כמברכין שזכינו לראות שאיכא עוברי עבירה ... מ"מ לברך שהחינו שהוא לשמוח על שאיכא פרי זה שבא ע"י עבירה אולי לא נאה לברך על זה. ולכן טוב לאכול אותם עם עוד פרי חדש ולברך על אותו הפרי ולצאת בזה גם על פרי זה.

שר"ת אגרות משה אורח חיים חלק ב סימן נח

Rav Moshe Feinstein addresses in this teshuva whether to make Shehechyanu on grafted fruit when one has already said Shehechyanu on one of the 'parent' species. Aside from the technical issue, he raises a concern of making a beracha on a fruit which was produced through an aveira.³⁰

In terms of the beracha on fruit trees in Nissan, some poskim take the same position - that one should not make the beracha on a tree which was created through aveira. Others say that the beracha is on all creation rather than this specific tree.

C5] GENETICALLY MODIFIED FRUITS

It is now possible to produce foods with significant genetic modification. Plants can be engineered with genes taken from bacteria, viruses, animals and humans, including:

- arctic fish genes which give tomatoes and strawberries tolerance to frost
- corn with jelly-fish genes

19. Syrian pear

20. Peach

21. Both from the ziziphus species.

22. Plum?

23. Apricot?

24. Quince and apple.

25. The Chazon Ish ruled that many (but not all) modern citrus fruits were considered to be the same min.

26. See Derech Emunah 1:41

27. See <https://en.toroland.org.il/beit-midrash/qa/grafting/grafting-several-types-of-citrus-fruit-onto-one-tree/for> which citrus fruits are definitely from the same min and thus can be grafted and planted even by a Jew. Generally, where the stock and scion are visibly different there will be a halachic concern. Since ma'arit ha'ayin is a very important consideration in matters relating to kilayim, some poskim consider the fruit-salad tree - where different fruits are visibly growing on the same tree - to be prohibited.

28. For a detailed botanical guide to the types of grafting conducted with most fruit trees (including: almond, carob, fig, loquat, nectarine, pecan, pomegranate, walnut, apple, cherry, grapevine, lychee, olive, persimmon, quince, apricot, date, guava, macadamia, peach, pistachio, sweet cherry, avocado, feijoa, kiwi, mango, pear, plum, sweetsop) and which could be halachically problematic see <https://en.toroland.org.il/beit-midrash/qa/grafting/grafting-where-is-there-a-list-of-all-the-kosher-combinations-1/>

29. See R. Eliezer Melamed at <https://www.yeshiva.co/midrash/shiur.asp?id=701>

30. If one is unsure whether the tree was grafted in a permitted way, Rav Herschel Schachter rules that one can make a Shehechyanu.

- tobacco with lettuce genes
- poplar trees with genes that break down pollutants
- bananas with hepatitis genes which inoculate against the disease
- cabbage with scorpion genes which produce venom that kill pests but not humans
- rice with human genes which produce bacteria-fighting compounds found in breast milk and saliva
- GM foods do not halachically fall within the definition of kilayim and there is thus no technical prohibition³¹ to produce them, and certainly not to eat them.
- There may however be significant hashkafic issue involved in defining the appropriate limits of human technological innovation.³²

D] WHEN IS A TREE NOT A TREE?

It is not always clear in halacha whether a certain species is a tree at all!³³ There are a number of halachic issues, including hilchot berachot, oral, kilayim.

A brief summary³⁴ is as follows:

<u>Fruit/Vegetable</u>	<u>Halachic Class</u>	<u>Reason</u>
Artichoke	Vegetable	Grows back from the root
Babaco	Doubt	Perennial plant, but its trunk is hollow. Bears fruit within a year.
Banana	Vegetable	Grows back from the root
Blueberries	Tree	Perennial shrub
Eggplant	Vegetable	Does not last for three years. Yield decreases.
Goji berry	Doubt	Perennial plant but bears fruit within a year.
Hot pepper	Vegetable	Does not last for three years. Yield decreases.
Papaya	Doubt	Perennial plant, but its trunk is hollow. Bears fruit within a year.
Passionfruit	Doubt	Perennial plant but bears fruit within a year.
Pineapples	Vegetable	Grows back from the base of the plant and sometimes from the trunk, produces fruit in its second year, exists for three to four years abroad (Hawaii), and diminishes in quality and quantity from year to year.
Pitaya	Fruit	Perennial
Raspberry	Vegetable	Grows back from the root
Sabra	Tree	Perennial
Strawberry	Vegetable	Grows back from the root
Sudanese pepper	Doubt	Perennial plant but bears fruit within a year.

31. For a short article on this see

<https://oukosher.org/halacha-yomis/are-genetically-modified-organisms-gmos-kosher-i-have-heard-that-they-can-splice-the-genes-from-one-type-of-plant-into-another-for-example-canola-seeds-can-be-modified-with-the-genes-from/>

See also the following shiur from Rav Belsky - minutes 30-38: <https://outorah.org/p/7319/>

32. See above and also other shiurim on <https://rabbimanning.com/index.php/audio-shiurim/cji/>, including the Kashrut of GM meat, the Genetic Modification of Embryos and Human Cloning.

33. This is a very detailed halachic issue which needs to be analyzed separately.

34. See <https://www.toroland.org.il/en/beit-midrash/halachic-guides/mitzvot-of-the-land/intermediate-plant-classification-as-vegetables-or-trees/>. You can follow the links from there to a number of comprehensive halachic articles on the topic, including Rabbi Yoel Friedman's Masters Thesis from Bar Ilan University on "The Development of the Definition of Trees and Vegetables from Tana'itic Literature Through 17th-century Halachic Decisors".