



1. “Genetic Modification of foods” includes a variety of practices
 - A. Inserting genes from animals into plants
 - B. Changing plant genomes to propagate certain traits
 - C. Changing animal genomes to propagate certain traits

2. Vayikra 19:19

Keep my statutes (*Chukim*). You shall not mate your animal with another species, you shall not plant your field with mixed seed, and a garment that is a mixture of combined fibers shall not come upon you.

3. Rashi (Rabbi Shlomo b. Yitzchak, 11th century, France) to Vayikra 19:19

Chukim: these are the decrees of the king that have no reason.

4. Ramban, Nachmanides (Rabbi Moshe b. Nachman, 13th century, Spain) ibid

The reason for the prohibition of crossbreeding is that G-d created species in the world...He gave them the ability to reproduce so that the species would survive forever... He commanded them to use that ability to sustain their species and not change them ever, as it says “[they were created] according to their species”... One who mates two species changes and denies the work of Creation, as if he thinks that G-d did not complete the world as was necessary, and he wants to help in the creation of the world by creating more creatures.

5. Shut Binyan Av 4:43:1, Rabbi Eliyahu Bakshi Doron, (Current, Israel)

The prohibition of interbreeding for plants, trees, and animals is only the act of interbreeding, not its results... by genetic engineering, we penetrate with a shot, through a microorganism or gene, and there is no interbreeding, as the gene is not alive. Also, it is not visible and cannot exist by itself, and there is no prohibition to effect a plant and its growth through watering or penetrating it with material that will sustain in or help it grown, even if their origin is other plants or trees.

6. Talmud Bavli, Pesachim 56a (Soncino Translation)

[Building on the Mishna that stated that the Rabbis permitted the people of Jericho to engage in certain activities].THEY GRAFTED PALM TREES ALL DAY. How did they do it? — Said Rab Judah: They brought a fresh myrtle, the juice of bay-fruit and barley flour which had been kept¹⁰ in a vessel less than forty days,¹¹ and boiled them together and injected [the concoction] into the heart of the palm tree; and every [tree] which stands within four cubits of this one, if that is not treated likewise immediately withers.

7. Rabbi Avraham Yeshaya Karelitz, Chazon Ish Kilayim 2:16 (20th Century Israel)

It seems there is no difference between grafting a body or grafting “sap”, for if you take sap from one and place it in the whole of another and make a branch from it, that is interbreeding.

8. Shut Minchat Shlomo 2:97:27 (or 2:100), Rabbi Shlomo Zalman Aurbach (20th Century Israel, translation from “Jewish Perspectives on Genetic Engineering” by Akiva Wolff)

Whereas (genetic engineering) in animals...does not involve any prohibition of interbreeding, since the mixing is done only by means of the transfer of "material" from one species into another species of animal, regarding the grafting of trees it appears to be forbidden even if the mixing is done only by means of the injection of plant juices, which if planted in the ground would not sprout on its own; nevertheless, in the end the field is sown with two species.

9. Perspectives on Genetic Engineering” by Akiva Wolff

It should be noted that the genetic material from a donor species can be synthesized in the laboratory, which would probably avoid any halakhic problems cited above.

10. Maimonides, Mishneh Torah, Laws of Kings 10:6

We know by tradition that Noahides are permitted neither to cross-breed animals nor to cross-breed trees.

11. Rabbi Yosef Karo, Shulchan Aruch, Yoreh Deah 297:4

A Jew may not give his animal to a non-Jew to cross-breed.



12. Rabbi Shabtai haKohen, Shach, Yoreh Deah 297:3

[Various authorities] said that it is because a Jew is rabbinically prohibited from telling a non-Jew to do something which the Jew may not do; this is correct...

The Derishah wrote that it is because non-Jews are also prohibited from cross-breeding trees and animals, as Maimonides wrote explicitly. I cannot believe that these words left his mouth, for we know that Noachides have seven Mitzvot, and no more! It is true that this is the view of R' Eliezer...but we hold the view of the Sages...

13. Shulchan Aruch, Yoreh Deah 295:7

It is forbidden to sustain that which was created by interbreeding, but the fruit that comes from it is permitted even for the one who bred it.

14. Summary, **Shut Binyan Av 4:43:2** [Kashrut of Food with Genes from Non-Kosher food]

- A. The genes are not edible and have no taste so cannot be non-kosher
- C. The genes will be nullified in more than 1/60
- D. The genes have to join with the other parts of the plant/animal, so they are not the only significant part of the process.
- E. Might be worse if the genes come from something which it is forbidden to benefit from

15. Rabbi Menachem Genack, "Kosher Today," January 2001

They've taken the gene of either a pig or a turkey and with it they've enhanced this tomato. The OU's position is, and I think also those of other Kashrus agencies, is that it is indeed a kosher tomato.

16. Summary of Shut Binyan Av 4:43:3-5 [Kosher Species Modified to not have kosher signs, or vice versa]

- A. This hangs on the question of whether the requisite signs for animals – chews their cud and has split hooves – is an **indication** that this **species is kosher**, or the **legal cause of it being kosher, even in normally non-kosher species**. He sides with the former possibility, as does Rabbi Shlomo Zalman Aurbach.
- B. Kashrut of birds depends on species, as the Torah gives a list of good species, no signs.

17. Other issues:

- A. The Torah commands that we maintain our health. There are continuing disputes as to the health of GMO
- B. The Torah demands that we be honest in our business dealings. If it makes a difference to consumers if the animal is, or has been fed, GMOs, should you have to label the food as such.