

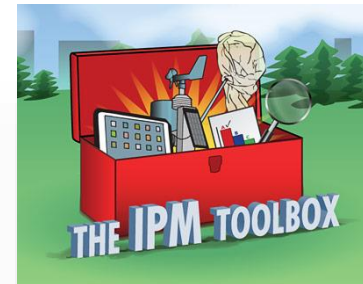
# Kosher, Halal and Insects: How do they relate?

Dr. Joe Regenstein

Professor Emeritus, Food Science

Head, Cornell University Kosher and Halal Food Initiative

Cornell University



Northeastern  
**IPM**  
Center

March 25, 2024



United States  
Department of  
Agriculture

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## Webinar Details



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# We Welcome Your Questions

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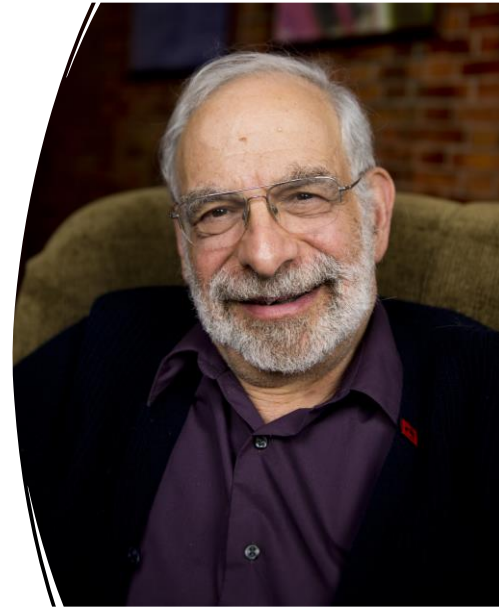
# Webinar Presenter

## **Dr. Joe Regenstein**

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# Some Questions for You



# **Insects: A Religious Perspective**

**A Secular Food Science Perspective**

**Joe M. Regenstein**

**Professor Emeritus of Food Science**

**Head: Cornell Kosher and Halal Food  
Initiative**

**[jmr9@cornell.edu](mailto:jmr9@cornell.edu)**

**Northeast IPM Center**

**March, 2024**

# **Kosher Halal and IPM**

- **Why its important for growers to understand**
- **Considerations for meeting/event planning**

# Introduction to Kosher and Halal With Respect to Meats

**Kosher = Fit or Proper**

**Treif = Not Kosher**

**Halal = Lawful**

**Haram = Prohibited**

**Look What's In The Middle Of An Oreo.**



Delicious Oreo Cookies are crunchy, chocolate cookies outside, rich creme filling inside and **U** Kosher through and through.

For the full list of Nabisco Kosher cookies and crackers, visit [www.nabisco.com/kosher](http://www.nabisco.com/kosher)





# Initial Clarifications

**Kosher and halal foods are not blessed.**

**A product is or is not kosher or halal according to whether it follows the rules not because the rabbi or imam is there.**

**The rabbi and imam provide a third party audit to assure that the product is following the rules.**

**However, both groups do say a blessing with respect to slaughter. (Muslims over each animal; Jews over each batch of animals)**

# **The Laws – Focus on Those Affecting Slaughter**

**Generally kosher and halal cover the following major areas:**

**1. The allowed animals (of commercial importance)**

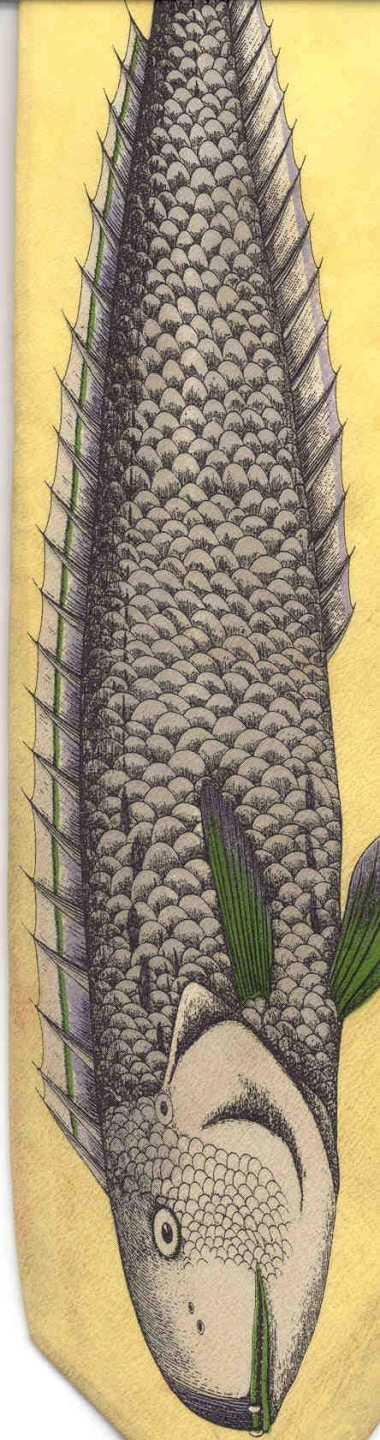
**Kosher: Ruminants**

**Split hoof and chew their cud**

**E.g., cow, sheep, goat, deer, giraffe**

**Halal: Non-carnivorous animals**

**E.g., add: camel, rabbit**



**Kosher: Traditional domestic birds but not ostrich, emu, rhea**

**Halal: Includes birds like the ostrich emu and rhea**

**Kosher: Fish with fins and removable scales**

**Halal: All animals that spend their entire life in the water, but many Muslims are more restrictive in practice**

**Two relevant concepts in Islam that are need for the discussion are :**

**Tayyab: Wholesome**

**Najis: Filth (includes many animal components)**



## **Insects**

**Kosher: Only specific locust**

**Halal: Beneficial insects that are not considered as Najis (filth)**

## **Feed for animals**

**Kosher: No rules except for Jews feeding their own animals**

**No mixing of milk and meat (of kosher species)**

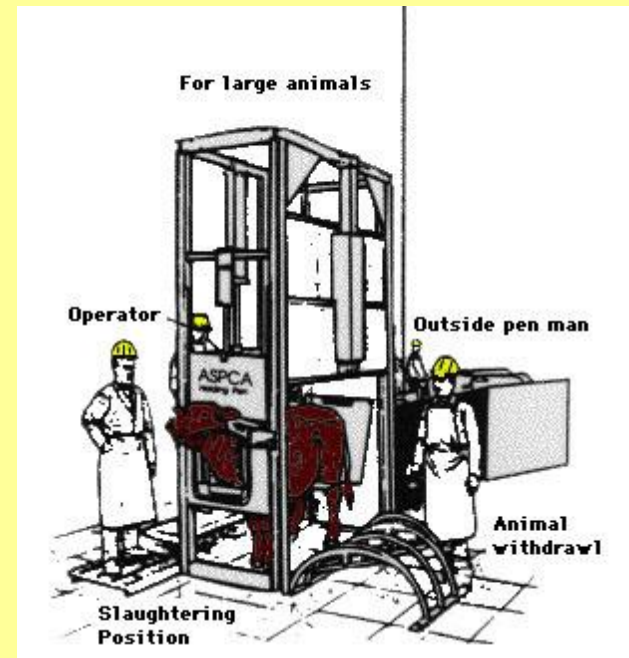
**2. The prohibition of blood (mammals and avian)  
Kosher and Halal: Specific slaughter requirements, i.e., made unconscious by a cut across the neck**

**Kosher: Inspection of animals after slaughter (mainly lungs) but other organs also**

**Deveining**

**Soaking, salting and rinsing**

**Kosher and Halal: All products derived from animals must be obtained from religiously slaughtered animals, e.g., gelatin, tallow, and fat derivatives (emulsifiers, glycerol)**



**There are many other laws in both religions that we will not cover in detail in this presentation.**

**A few key ones are:**

**Kosher: Separation of Milk and Meat**

**Passover**

**Halal: Prohibition of Alcohol**

**Both: have procedures for making equipment acceptable for kosher and/or halal**

# Questions





# **Traditional View of Insects**

**Kosher: Except for specific locust for which there is a tradition of eating (passed on from generation to generation, all insects (and similar creatures) are not kosher.**

**Must be “whole”**

**Must be visible**

**Must come from “someplace else”**

**Insect parts are not an issue as it is for the FDA in the US**

**Studies and procedures on how to remove insects are extensive**

**Major task of a mashgiach (religious supervisor) in most restaurants.**

**Intent to puree can negate need for inspection**

**Do permit “statistical sampling”**

**Bees:**

**Honey is accepted “as a processed plant material**

**The land of milk and honey – the honey is probably honey from dates**

**Lac Resin:**

**Generally acceptable as an exudate**

**Cochineal/Carmine**

**Generally, not acceptable as it comes from processing the shell although some lenient Orthodox rabbis accept it**

# **Stories:**

**Thrips in Sauerkraut**

**Brussel Sprouts**

**Aphids in Broccoli**

**Unusual attitude: The rabbinical authorities like pesticides as used in America because it makes produce insect free.**

**Note: Only concerned with insects as part of the edible part**

**Halal:**

**Accept a wider range of insects generally but have never been forced to delineate which are acceptable for feed and/or for human consumption. Likely to have disagreements among the scholars.**

**Prophet Muhamed (Peace be upon him) ate locust**

# **The Food Industry View**

**Kosher and Halal are an important part of the food industry worldwide.**

**Importance to the industry is not religious but business. Many food companies are involved in kosher and/or halal food productions because it is a good business decision! And that is the way it should be.**

**For ingredient manufacturers provides entrée into markets and provides assurance to buyer.**

# **Other Groups to Consider**

**Some religions have vegetarian and/or vegan practices and/or requirements, e.g., Buddhism and Seventh Day Adventist – will they become concerned about insects?**

**Philosophies: As the emphasis on using/growing insects increases and becomes more public, will vegetarians and vegans become more concerned about insects?**

**Organic Consumers: Are they comfortable eating more unintended insects?**

# **Edible Films including Fruit and Vegetable Coatings:**

**Ingredients have to be compatible with the kosher and halal status of the product, e.g., fruit and vegetables cannot use slaughtered animal products (gelatin and glycerides) for both kosher and halal; dairy products (milk proteins) for kosher pareve (e.g., fruits and vegetables); or shellfish and insects (e.g., chitin) for kosher and some halal organizations.**



**Note: The US FDA requires labeling if fruits and vegetables are coated – on box and sign in supermarket (I worked on this for seven years):**

**Plain English now required**

# Produce Waxes

Some fruits and vegetables arrive in our stores coated with wax to preserve moisture, inhibit mold and fungi or enhance appearance.

## HOW TO REMOVE WAX FROM PRODUCE

Soap and water can remove some wax. Skinning or peeling waxed produce is the only way to remove 100% of all waxes.

## TYPES OF PRODUCE WAX

From plants: candelilla and carnuba

From insects: lac resin and beeswax

Synthetic: polyethylene, naphtha, paraffin, and mineral oil

## U.S. LAW ALLOWS WAX ON THESE PRODUCE ITEMS

Apples  
Avocados  
Cucumbers  
Eggplant  
Grapefruit  
Lemons  
Limes  
Melons

Oranges  
Peaches  
Pineapples  
Plums  
Parsnips  
Peppers  
Pumpkins  
Rutabagas

Squash  
Tomatoes  
Sweet Potatoes  
Passion Fruit  
Turnips  
Zucchini

# **GMO**

**Chymosin and other enzymes by gene transfer:**

**Microbes and genes (microscopic) are not an issue for kosher, but the status of the reactor and all the media ingredients are important. i.e., pareve (or dairy) and halal.**

**A gene from any source is generally acceptable for kosher, but need the production to be acceptable, thus using an insect or other lower animal that is visible to produce the product is likely not to be acceptable.**

## **Halal Exceptions:**

**Porcine genes are not acceptable for halal**

**Other haram animals unlikely**

**Najis animals unlikely**

**For example, the production of a totally synthetic halal compliant copy of a porcine gene would still most likely not be accepted: Still being adjudicated**

**The ingredients in the reactor need to not only be halal but also not najis. The source of the microbe itself may be considered najis. What is najis is debated. A microbe obtained from a najis insect might not be acceptable.**

**Note: Items marked as vegetarian or vegan are NOT automatically acceptable for kosher and halal – may miss some fine points of these religious laws. For example, it seems that vegan certification can be obtained without concern for the equipment being used to produce it. And vegans would permit the use of alcohol. And products may not be checked for insects.**

# **Fungal Material**

## **Halal:**

**Concern that they are being raised on materials that are najis, e.g., manure (may be important if the manure is from a halal animal, but also may not)**

**The specific fungal material itself would have to also be considered tayyab and not najis**

**Halal issue:**

**Does increased use of by-products present an issue. For example, will “plate waste” be acceptable as a growth media, or is it najis for animal feed? Even if an insect is Tayyab, will the feed be declared najis?**

**For copies of this presentation or further discussion, contact me at  
[jmr9@cornell.edu](mailto:jmr9@cornell.edu)**

**There is a comprehensive open-access paper at  
[ift.org](http://ift.org) on kosher and halal rules. Please go to  
**publications: Comprehensive Reviews in Food  
Science and Food Safety, volume 2, issue 3.****

**For a 2 credit distance learning course on  
kosher/halal go to the Kansas State University  
distance learning program of the Food Science  
Institute.**



# Questions



# Some Questions for You



# Upcoming Webinars

Thursday, April 11<sup>th</sup> - **Reducing Synthetic Chemical Use to Optimize Pest Management and Crop Production: A case study of onion thrips in onion** with Brian Nault

<https://www.northeastipm.org/ipm-in-action/the-ipm-toolbox/>



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# Land Acknowledgment

The Northeastern IPM Center is based at Cornell University in Ithaca, New York.

Cornell University is located on the traditional homelands of the Gayogohó:nq' (the Cayuga Nation). The Gayogohó:nq' are members of the Haudenosaunee Confederacy, an alliance of six sovereign Nations with a historic and contemporary presence on this land. The Confederacy precedes the establishment of Cornell University, New York state, and the United States of America. We acknowledge the painful history of Gayogohó:nq' dispossession, and honor the ongoing connection of Gayogohó:nq' people, past and present, to these lands and waters.

This land acknowledgment has been reviewed and approved by the traditional Gayogohó:nq' leadership.

# Funding Acknowledgment



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