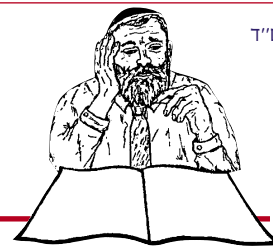


THE Daf HaKASHRUS



A MONTHLY NEWSLETTER FOR THE  RABBINIC FIELD REPRESENTATIVE

COLOR ADDITIVES AND KASHRUS

BY RABBI GAVRIEL PRICE

Ingredients Approval Registry

The following article is an overview of colorants used in the food industry. Kashrus considerations for colorants focus not only on the manufacture of colorants themselves but on any ingredients that may be used with colorants to help make them compatible in a given food system. The first part of the article will survey natural and synthetic colors, and the second part will describe the types of additives used in colorants. The last part will discuss label regulations as they relate to natural and synthetic colors.

I The body of colorants used in the food industry is not endless. Economic and regulatory considerations limit the use of many synthetic and natural coloring materials. The FDA, for example, because of safety considerations, permits only seven **synthetic** colors – although labs can produce considerably more. Other countries have similar, but not identical regulations. Although 26 **natural** colors are permitted for use in the United States, the economics of production for most natural colors do not lend themselves to commercial use. Trade books for the food industry count only a handful of natural colors commonly used. From the finite number of colors available, an almost infinite number of hues can be created.

Synthetic colors, when not dissolved in a solvent, do not pose any kosher concerns. Identified by Food, Drug and Cosmetic (FD&C) numbers on ingredients labels - for example red #40 - synthetic colors are petroleum-based and factory made. Some of these colors are only permitted for drug and/or cosmetic use, and are not permitted in foods.

Natural colors are, for the most part, the products of agriculture. Botanicals have historically been a source for colors used in foods. Beets can furnish a deep red; annatto, which is from a plant found mostly in South America called bixin, provides a yellow-orange; saffron, from the crocus bulb, a yellow; and paprika, a deep red. Turmeric is another popular source of yellow. When colors are extracted from plant material the product is called an oleoresin. Although these colorants are inherently kosher, they, like their synthetic counterparts, may be dispersed in a medium or otherwise processed in ways that merit review. In section II those possibilities will be discussed.

Although most botanical sources are inherently kosher, grapes, or more precisely grape derivatives, may pose issues of *Stam Yenom*. Grape-skin extract is a colorant used in the food industry

to dye a food red, blue, or purple, depending on the nature of the food system it is used to color. This extract, which is also called enocianina, is often used to color red wine vinegar. Red wine vinegar, left uncolored, is usually pink, and grape-skin extract imparts the dark red associated with wine.

The plant kingdom is not the only source for natural colors. Cochineal extract is a red colorant derived by extracting pigment from the dead bodies of cochineal insects. Carmine color is a derivative of cochineal extract. The OU considers cochineal extract and carmine to be non-kosher. [See OU documents I-4, K-278, K-279, X-15].

Astaxanthin, which in the U.S. is permitted only for fish feed [see *The Daf HaKashrus* - May, 2003] is a by-product of lobster and shrimp processing. It can also be made synthetically or produced from algae.

Fermentation can also be used to create natural colors. Fermentation refers to chemical changes of a given substance induced by a living organism or an enzyme. Often, the changed substance is sugar or starch based. Beta-carotene, a yellow-brown color, is made by one large manufacturer through fermentation. Riboflavin (Vitamin B2), a greenish, yellow pigment can be made

by fermentation as well. In the case of both beta-carotene and riboflavin, the fermentation medium used is often mainly glucose. Glucose can be *kitneous* or *chametz*.

According to one of our European experts, glucose in Europe is very likely to be *chametz*-based.

Therefore, these two pigments may have *chametz*-concerns and therefore their production must be reviewed before accepting them

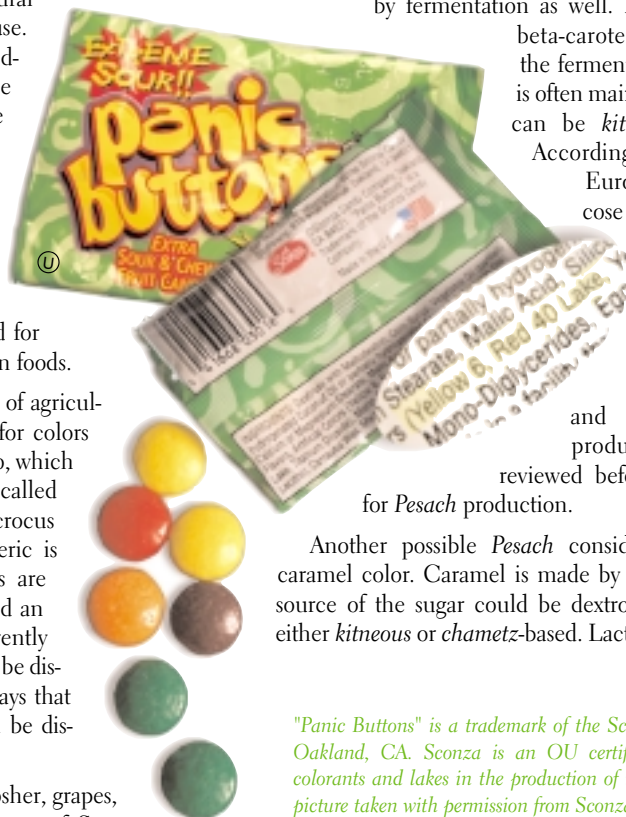
for *Pesach* production.

Another possible *Pesach* consideration arises with caramel color. Caramel is made by heating sugars. The source of the sugar could be dextrose, which could be either *kitneous* or *chametz*-based. Lactose, or milk sugar, is

continued on next page

"Panic Buttons" is a trademark of the Sconza Candy Company, Oakland, CA. Sconza is an OU certified facility which uses colorants and lakes in the production of its candy products. This picture taken with permission from Sconza.

Photo credit: Rick Magder.



COLOR

continued from previous page

another possible source for caramel production, although its use in caramel production may be only theoretical at this time.

II An article in the August, 2002 issue of *Food Product Design* set forth some of the factors food manufacturers should think about when using a colorant. Most of them – pH, shelf-life of the colorant, brightness – are, for the most part, irrelevant to kashrus. However, one problem, the problem of solubility, does touch upon a kashrus issue. Overcoming solubility may involve using sensitive ingredients.

Solubility refers to the capacity of a solute – in this case a color additive - to dissolve into a solvent – a food. Certain colors are water-soluble, which means they dissolve in water. Caramel, for example, is water-soluble. It can be used to color soda, which is water-based, brown. Colas typically contain caramel. But caramel is not oil-soluble. An attempt to use caramel to color an oil-based system, such as an imitation cocoa butter, would, without the help of other ingredients, run into problems.

Food colorants, in their pristine form, are either water-soluble or oil-soluble. They are not both. A medium, called a diluent, is one means available to help make a colorant miscible - dissolvable - into a food that it may not otherwise be able to dissolve in.

BASF, an OU manufacturer of beta-carotene, has no less than 14 different beta-carotene products. Each product is dispersed in a medium or otherwise processed to make each one operable in a specific application. One of the products is dispersed in vegetable oil, making it soluble in oils and fats. Another is dispersed in vegetable oil and emulsified with glycerol. Others are in powder form, embedded in soy protein and glucose powder. Without certification these colorants would not be acceptable because they contain Kashrus sensitive ingredients. One RFR has reported seeing chlorophyll, the green colorant of plants, prepared with lactose (milk sugar), which would make it at best kosher dairy.

A lake is a water soluble colorant prepared on a base of aluminum or calcium salt. These too can be dispersed in Kosher sensitive diluents.

Colors are often spray-dried. Spray-drying a colorant - or any other ingredient – could jeopardize its kashrus. Spray-driers are expensive pieces of equipment (a large one costs about \$5 million). Those who own them often seek clients for whom to do custom drying and blending. Those food manufacturers who need their products spray-dried often look to a custom blender because the investment in purchasing a spray-drier is so great. Since spray-driers often operate 24 hours, seven days a week, it's not so simple to invoke the principle of *stam keilim aino b'nei yomo*. In addition, spray-dried colors often contain maltodextrin, which in the U.S. is presumed to be *kitneous* but in Europe and elsewhere could be *chametz*. Therefore, spray-dried ingredients should be assessed with caution. A group one (that is, innocuous) ingredient may not be so innocuous if it has been spray-dried.

Because colorants can be processed with an emulsifier, dispersed in a diluent, spray-dried, or possibly adulterated, colorants that have been identified as a group one ingredient only meet that status if they are pure, with no additives. **An RFR must confirm that Group 1 colorants found during a review are indeed free of additives.**

III “Artificial colors” was listed on an ingredients label for fruit cocktail and the question arose at the OU’s IAR (Ingredients Approval Registry): can we rule out the possibility of carmine in the dyeing of the cherries? The answer is no. Unlike the definition of “natural” for flavors, the Food and Drug Administration’s definition of “natural colors” is narrow, and includes only those colors that are natural to the food being colored itself. For example, if beet juice were used to color a strawberry product, the beet juice would have to be listed as an artificial color or bear some designation other than “natural”. Only if strawberry juice were used in the strawberry product would “natural colors” be permitted. Therefore, even if a natural color such as carmine is used, if the color is not native to the food being colored, the label must read “artificial” colors. Synthetic colors are always “artificial” based on FDA regulations. Other countries have different rules.

While colorants are often, indeed, innocuous from a Kashrus perspective, an RFR must never be “color blind” during his inspections.

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REFERENCE SOURCES

Francis, F.J. *Colorants*; Eagan Press Handbook, 1999

Code of Federal Regulations Title 21, part 73

“Certified Colors” *Kirk-Othmer Encyclopedia of Chemical Technology*, 1993

“Natural Colors” *Food Product Design*, August, 1994

“Color, Naturally” *Food Product Design*, March, 2002

The Daf HaKashrus plans to publish various pertinent Halachic Highlights concerning “Color Additives and Kashrus” in a future issue.

MAZAL TOV TO ...

our devoted Rabbinic Coordinator **RABBI DOVID COHEN AND HIS WIFE** on the birth of their daughter Rivka.

our dedicated RC **RABBI YEHUDA KRAVITZ AND HIS WIFE** on their double Simchos; the birth and Bris of their son Aryeh Zev and the Bar Mitzvah of their son Eliyahu.

CONDOLENCES TO...

our dedicated RFR in Baltimore, MD **RABBI JOSHUA ROSMAN AND FAMILY** on the recent loss of his father.

◆ המקום ינחם אתכם בתוך שאר אבלי ציון וירושלים ◆

Some KASHI products produced by Kashi Co., La Jolla, CA which are certified as @ pareve, may include the statement "Contains wheat, milk and soy ingredients". In fact, these products do not contain dairy ingredients. The statement is to alert individuals with severe allergies of the possibility of air borne molecules. Products which actually contain dairy ingredients are labeled as @D.

KASHRUTH alert!

IDAHO SUPREME (Bi-Lingual Package) Cheddar Cheese Au Gratin Potatoes/Papas Gratinada Con Queso Cheddar & Scalloped Potatoes with Seasoned Sauce Mix/Rebanadas De Papas Con Salsa Sazonada produced by Idaho Supreme Potatoes, Firth, ID have been reformulated and mistakenly bear an unauthorized @ symbol. The products are now not Kosher. Corrective action is being taken.

VERY! VANILLA NESQUIK (powder) produced by Nestle Brands, Glendale, CA is certified as @D but the dairy designation has been inadvertently omitted. Future packaging will be revised.

AVON SLIM WELL Dutch Chocolate, Cappuccino and French Vanilla **BALANCED MEAL SHAKES** (individual packets - 12 oz. each) produced by Avon Products Inc., New York, NY mistakenly bear an unauthorized @ symbol and are not certified as kosher by the Orthodox Union.

MAPLE DONUTS DONUTS (Foodservice-12 pack) produced by Maple Donuts, York, PA is certified as @D but the dairy designation was inadvertently omitted. Corrective action is being taken.

AMERICAN COFFEE SERVICES NON-DAIRY CREAMER (powder) produced by American Coffee Services, Cleveland, OH is certified as @D but the dairy designation has been inadvertently omitted. Corrective action is being taken. **Consumers should be aware that many "non-dairy" creamers contain dairy ingredients. By law, creamers that contain milk derivatives, and not actual milk, must be labeled "non-dairy". Halachically, they are nevertheless considered dairy.**

PAPETTI'S COOK IN THE BAG SCRAMBLE MIX (Foodservice item) produced by Papetti's Hygrade Egg Products, Inc. Elizabeth, NJ is certified as @D but mistakenly bears an @P symbol. This product is certified by the Orthodox Union as dairy for year-round use and is not Kosher for Passover. Future packaging will be revised.

PIKNIK BONJOUR CHEESE DRESSING (Foodservice 1 gallon size) produced by Pkunik Products Co., Montgomery, AL mistakenly bears an unauthorized @ symbol and is not Kosher. Corrective action is being taken. Consumers spotting this product are requested to contact the Orthodox Union at 212-613-8169 or email howardk@ou.org.

AGNES' VERY VERY ORGANIC BAGELS raw bagels are certified kosher by the Orthodox Union. Earth Fare Supermarket, based in North Carolina, incorrectly advertised these bagels, which are "baked off" in their facility, as @ certified. Our supervision of these bagels is limited to the raw, unbaked bagel. Corrective notices have been posted.

VALUABLE LESSONS

BY RABBI NORMAN SCHLOSS, RFR - AL, GA, MS, TN

A number of years ago, I fell during a plant inspection and broke my hand. The company took me to the hospital where I was told they would bandage my hand, since I would need surgery.

I was driven to the airport for my flight back to Atlanta. Delta was nice enough, when they saw me, to upgrade me to First Class. As the plane was taxiing, I tried my best to relax. After all, it was a very trying day to say the least. After takeoff, the stewardess informed me that unfortunately, she did not have a Kosher meal for me.

Another passenger said to the stewardess, "Can't you see the shape he is in? How can you add insult to injury (literally) by telling him you have no meal for him?" I calmly explained that it was alright. It was a short flight and I didn't feel too hungry. "It's not like the stewardess could 'step outside' and get me something to eat," I said. I further explained, "Getting upset won't solve anything. It certainly would not be helpful to my already stressed state, but it would only frustrate and upset the stewardess as well."

The woman next to me asked, "Are you Jewish?" I guess my disguise of beard and yarmulke didn't fool her, so I said, "Yes." "I really have to hand it to you," she said. She then explained that a number of weeks earlier, she was on a flight and as the plane was taxiing, the stewardess informed a passenger that his 'special' meal was not on board. Well, the man went ballistic, ranting and raving about his forgotten meal. The apologies of the crew were to no avail. The issue got so out of hand, that the pilot pulled the plane back to the gate and the passenger was removed from the plane.

Even before Sept. 11, removing a passenger from a plane was taken very seriously. Removing a passenger just before take off for any reason is highly suspect and appropriate measures had to be taken. Everyone had to de-plane so that the plane could be inspected. All of this resulted in a two hour delay for all involved.

She added, "I personally want to thank you for keeping your cool. Your actions are an inspiration to me as to how people should act when things go wrong."

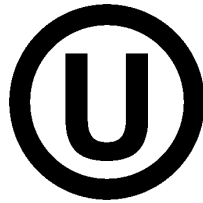
I learned a number of things from this experience.

Always remember who you are and who you represent. We are the representatives of *Hakadosh Baruch Hu* and as such, many times, we have to go the extra yard. It is so simple and evident yet we sometimes lose sight when things go wrong. How we react in times of stress reveals alternate sides of our true selves.

It does not help anyone to get upset over things that you or others are powerless to change. For example, you are in a plant and awaiting the arrival of a tanker truck. It is now 4:00 pm and you have to leave by 5:00. You are told that there is a traffic pile up and the truck will be arriving in two hours. Do you rant and rail about how you have to leave? Do you question the ability of the truck driver and ask if there are alternative routes that he could take? Do you remind the plant contact that you wanted to plan your visit early that morning just in case these things happen and that he assured you that you could come in at noon and be out by 5:00?

Try and think through the effects that your actions will have on others. Many times, especially in times of stress we may take actions or say things that we later regret. Just taking a moment to calm down and assess the situation could do immeasurable good rather than irreparable damage.

Be careful when walking through plants.



Oh, no!

Even if two products look similar or have the same brand name, they may not both be kosher. Look for the  on every package.

The  makes all the difference.

