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Bayamim Haheim

Bazman Hazen. OLIVE OIL: The Contemporary Industry of Antiquity

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Olive oil, the liquid gold of the ancients, was touted for its nutritional, medicinal, and cosmetic value. As a fuel, olive oil illuminated the home; as a food ingredient, it was a feast to the palate. Olive oil production is one of the world's oldest industries. Interestingly, much of this ancient industry has not changed over the millennia.

As the numerous olive oil brochures of the Mediterranean coastal region proudly claim, the olive oil industry dates back over 5000 years, as evidenced by the discovery of a 5000 year old olive oil earthenware vessel in Turkey. Needless to say, the *shemen zayis* (olive oil) as mentioned in the *Torah*, which was given 3300 years ago, is one of the seven special species of *Eretz Yisroel*. The *Torah* requires the purest of pure olive oil, *shemen zayis zach*, to light the *menorah*. Olive oil was an integral part of the service in the *Bais Hamikdash*, the Holy Temple. The olive branch is considered a symbol of peace and was also brought back to Noah's ark by the dove, signaling that the end of their year-long confinement during the flood was in sight.

Today, olive oil's popularity has dramatically increased and has taken the health conscious market by storm. Premium quality olive oil under reliable *kosher* certification is imported from Crete, Greece, Italy, Morocco, Spain, Turkey, Tunisia, and of course Israel.

The Star-K hotline receives numerous questions regarding the *kashrus* of olive oil. What is the difference between the processing of olive oil and other vegetable oils? What exactly is extra virgin olive oil? Are there additional *kashrus* concerns? Let us take a closer look at the contemporary industry of antiquity.

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WHAT IS VEGETABLE OIL?

Olive, corn, soybean and all other seed oils fall into the general family of oils known as vegetable oils. Vegetable oil is one of the liquid substances that is extracted from the vegetable. Vegetable oil is almost entirely made up of the fat of the vegetable. It can be liquid at room temperature, as in the case of corn, cottonseed, soybean, or olive oil. In the case of cocoa butter, coconut, or palm oil, the oil is solid at room temperature. Some vegetable oils are extracted from the seed of the vegetable, as in corn, soybeans, peanuts, hazelnuts, and sunflowers. Some vegetable oils come from the "fruit of the vegetable," as in olive and palm. CONTINUED ON PAGE 2

Birchas

Hachama 5769

RABBI DOVID HEBER STAR-K KASHRUS ADMINISTRATOR

If one would visit the numerous day schools, *chadarim, mesivtos* and *batei midrashim* throughout the world, one would find that every child, almost every *bochur* and most *Kollel Yungeleit* have never performed the *mitzvah* of reciting *Birchas Hachama* (the blessing of the sun). This is because this *mitzvah* is performed only once every 28 years. The last time it was recited was in 5741 (1981) and *b'ezras Hashem* the next time will be this coming *Erev Pesach*, 5769 - Wednesday April 8, 2009. What is this special *mitzvah* and why is it recited so infrequently?

I. BIRCHAS HACHAMA – A SIMPLE EXPLANATION

The Amorah (Talmudic scholar), Shmuel, said¹ that every time Tekufas Nissan (the beginning of spring, as calculated by Chazal) occurs at 6:00 p.m. on Tuesday evening (when the halachic day of Wednesday begins), one should go outside the next morning and recite the brocha, "Osei maaseh braishis." This occurs once every 28 years.

II. THE HALACHOS

Kashrus Education

On Wednesday morning (the day after *Tekufas* Nissan), one goes outside and quickly gazes towards the sun and says, "Baruch atah Hashem Elokainu Melech haolam oseh maaseh braishis", "Blessed are You, Hashem, our G-d, King of

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A variety of processes are used to extract oils. Chemical extraction uses heat and solvents. Cold pressing, also known as physical or mechanical extraction, does not use processing aids. All varieties of vegetable oils are expressed through chemicals and heat. Cold pressing is unique to olive oil.

There are two types of chemical extraction. One method uses high heat and a solvent, such as hexane, to draw out the oil. The solvent is then evaporated, leaving behind the vegetable oil. Expellar pressing, another method of chemical extraction, expresses the vegetable oil through high heat and pressure. The freshly extracted vegetable oil is known as crude vegetable oil, which is dark and generally bitter, necessitating further refining before becoming an edible oil.

THE COLD PRESSING MIRACLE

Olive oil is truly one of Hashem's unique creations. It is unique because olive oil is the only fruit oil that can be extracted through cold pressing. This means that the oil only needs to be squeezed out; no further refining is required and it is ready for consumption. Although the heavy grindstones and millstones that crushed and expressed the olive oil in ancient times have given way to mechanical crushers and centrifuges, cold pressing extraction has remained virtually unchanged. Once separated, the freshly squeezed olive oil needs no further refining. The olive oil's quality is rated by its acidity content. If there is little or no acidity, then this supreme quality olive oil is labeled extra extra virgin; up to .5% acidity, the oil is considered extra virgin; from 1 to 1.5% acidity is virgin olive oil. These naturally squeezed oils are robust, flavorful and full bodied! The oil is filtered through a cold filter press and is ready to go.

In the event that the cold pressed olive oil's acidity level is too high, the oil would be too bitter to consume. Refining in a manner similar to the other crude vegetable oils would be necessary.

REFINING VEGETABLE OIL

Four basic steps are used to refine oil: Neutralization and Separation, Bleaching and Deodorizing.

• Neutralization and Separation:

When an oil is neutralized, sodium hydroxide, also known as caustic soda, is added to lower the acidity. This neutralizes the bitter taste of the crude oil by combining with the oil to create a sodium salt which is then separated out from the oil and used for soap stock. The neutralized oil is then ready for bleaching.

• Bleaching:

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Diatomaceous earth is added to bleach and absorbs the dark colored particles of the oil, in order to give it a clear color.

Deodorization:

Any off smell that the oil may have is then removed through a process known as deodorization. The oil is heated to very high temperatures in a 12 meter tall deodorizer. Vacuum

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and high heat remove any smell. The result is a clear, odorless, refined vegetable oil.

In the event that a refinery processes only vegetable oil, the kashrus issues regarding equipment are minimal. In the past, it was customary for many of the oil refineries in the U.S. to refine tallow, rendered beef fat or lard, as well as vegetable oil on the same equipment. Cleaning and kosherizing a 12 meter high deodorizer that has been deodorizing tallow is nearly impossible; ask any housewife who has to clean a greasy, oily, caked-on frying pan, and then multiply it by 12 meters! Consequently, many reliable kashrus agencies would not kosher certify vegetable oil that was deodorized on a common animal/ vegetable deodorizer. Although animal/vegetable refineries have greatly diminished in the past 20 years, they still exist and the *kashrus* issues in an animal/vegetable plant are still critical. Due to these issues, any refined vegetable oil or any product containing vegetable oil requires reliable kosher certification.1

NAMING THE OLIVE OIL

Often, we see (on the supermarket shelves) many varieties of olive oil alongside the extra virgin olive oil sold under the following "noms de market": pure olive oil, extra light, or refined pomace olive oil. What are they? Pure olive oil is a combination of extra virgin and refined olive oil. Extra light is the popular name for refined olive oil. Pomace olive oil is the refined oil that is extracted through a

second heat extraction. After cold pressing, the pressed olive pulp undergoes secondary high heat extractions in order to remove any residual olive oil from the olive stock. This crude oil, also known as pomace oil, would be subjected to the same refining processes as other crude vegetable oils. Usually, pomace oil is used in manufacturing applications such as the olive oil found in canned sardines. It can also be sold as a consumer item.

KOSHER OIL TRANSPORT

The Talmud relates² that when Daniel was in the court of Nevuchadnetzer, King of Babylon, he refrained from eating non-supervised olive oil because he suspected that the oil may have been adulterated or contaminated. Furthermore, Daniel suspected that the vessels that held the oil could have been smeared with non-kosher fats or oils. The Talmud questions whether or not the rabbis should permit non-supervised olive oil. This was subject to many opinions. The Talmud concludes that Rabbi Yehuda Nasia and his rabbinical court permitted this oil. According to the halacha, there is no rabbinical prohibition of shemen akum.

Is there a real concern for olive oil adulteration today? Given that extra virgin olive oil is such a high end commodity, adulteration is very inviting.

In past years, safeguards have been set up by the International Olive Oil Board to counter this. The board has a major responsibility to their constituency, namely that the olive oil sold in the U.S. is pure and untainted. The quality control standards stipulate that each production of

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extra virgin olive oil must undergo a battery of quality control testing to assure its integrity. It was assumed that with the producer's reputation on the line, olive oil adulteration would be almost impossible. Over the years, however, there have been allegations of compromise in various oil facilities, especially with the proliferation of many food service brands.

In order to gain greater insight and first hand information into the growing food industry, the Star-K joined a number of food associations, including the NAOOA, North American Olive Oil Association. The NAOOA was created to work on behalf of the olive oil industry on legislative and regulatory issues, to promote and educate consumers about the value and benefits of olive oil, and to serve as a voice of integrity in an industry that has been subjected to alleged improprieties. Furthermore, the NAOOA has repeatedly voiced these concerns to the international olive oil parent body, the International Olive Oil Council (the IOC), without any satisfactory resolve.

Finally, the NAOOA decided to take matters into their own hands by implementing an olive oil seal program, similar to an olive oil kosher certification to create a U.S. standard of identity for olive oil. Companies that agree to participate in the seal program must pay an annual fee and submit samples for periodic testing. The intention of the seal program is to discourage would-be olive oil adulterers. However, companies must be willing to participate. Moreover, food service consumers such as restaurants and hotels are more concerned with the bottom line price, rather than aesthetics and quality, so the seal program will be a hard sell.

Consequently, the Star-K requires kosher certification on all types of olive oil, including extra virgin. There is a contractual agreement between the manufacturer and the *kashrus* organizations, as well as an extra set of eyes that inspect the facilities. Unfortunately, allegations refuse to go away.

The alleged "counterfeit" oil that has been known to pass as an olive oil, and possibly squeak by the Delta 7 test for olive oil adulteration, is hazelnut oil. Any other vegetable oil would be spotted immediately. However, the fear of getting caught, fined and blackballed would give any fraudulent olive oil producer pause. Although there have been allegations in the past, none have been conclusively proven with hard core evidence. Nevertheless, the kosher consumer should be aware in light of all of the allegations and the responsive action taken by the NAOOA in implementing the seal program. Any olive oil, cold pressed or refined, should be purchased with reliable kosher certification. Furthermore, it is important for the kosher consumer to note that the olive oil producing countries do not refine any animal fats in their oil refineries.

The issues concerning the transport of kosher vegetable oils from global ports is as real today as it was in *Nevuchadnetzer*'s court. The wooden cask, clay jug and leather flask have been replaced with 55 gallon drums, five gallon tins and plastic bottles. New drums and packaging solve the concerns of retail packaging. However, the new reality of reusable plastic flex tankers and the age old issue of common carrier transport in trucks and ocean vessels is a real *kashrus* issue. The problem with shipping kosher oil in a common shipping vessel is further exacerbated, due to possible contamination of kosher oil from

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non-kosher wine vinegar and/or animal based fats and chemicals shipped in adjoining shipping Kosher truck transport has been a front compartments. burner issue, as well. Trucking companies sensitive to the kashrus concerns of kosher certification agencies have set aside dedicated carriers or kosherization protocol for common carriers. The problem of common shipping carriers has been solved by establishing a criteria for kosher food transport in shipping vessels with the cooperation of tanker transport companies. The kosher criteria is as follows: The last three shipments prior to the transporting of kosher certified product have to be kosher grade products. During the transport of the kosher certified product, no non-kosher product can be shipped in adjoining compartments of the vessel.

Although tallow production is uncommon in olive oil producing countries, tallow based shipments of products such as glycerin from foreign countries are not uncommon. Therefore, oil refineries still require kosher certification.

PESACH

Are there any *Pesach kashrus* concerns? As we have mentioned, seed oils such as corn and soybean, which are not used for *Pesach*, are commonly refined in the same facility that produces extra virgin olive oil. The holding tanks for extra virgin olive oil are always separated from the seed oils. At times, there could be a co-mingling of common filters, fillers, and hoses. Furthermore, some facilities add citric acid to extra virgin olive oil, although this practice is highly uncommon.

Zayis ra'anan yafeh pri to'ar kara Hashem shimecha.³ Hashem compares the nation of Israel to the beautiful fruit of an olive tree. The Midrash questions why Israel is likened to an olive tree. Don't other beautiful trees or beautiful fruits merit comparison? Why not the delicious grape or the tall majestic cedar? The olive tree is strong and durable and can live for centuries. The main purpose of the olive is not its fruit, but the delicious oil that the fruit contains which is not easily obtained. First, the tree has to be shaken to loosen the olives. Then the olives must be crushed, ground and pressed under the weight of heavy mill stones. Finally, the delicious oil is extracted. So it is with the nation of Israel, who is constantly subjected to the pressures and criticism of a hostile world. It is under these challenges that our great strength, fortitude, and resilience exude from within our national collective self and the sweetness of achdus, unity, comes to the forefront. Like delicious olive oil, we rise to the occasion and weather the challenges.

¹ It is interesting to note, due to our renewed interest in a healthy diet, another seed oil has captured the interest of consumers, namely grape seed oil. Grape seed, not to be confused with rapeseed, is the actual seed of the grape. These seeds are the byproduct of the grape crush after the grape juice has been pressed, and indeed contain a small content of grape juice that is recovered after the first crush. Grape seed oil cannot be extracted from a moist seed. The seed must be washed and completely dried before processing into grape seed oil. This oil would also require reliable kosher certification.

² Avoda Zora 35B and 36A.

³ Yirmiyahu Raba 11.

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OLIVES AMERICAN EAGLE FOOD PRODUCTS Cedar Grove, NJ

FRUIT (DRIED) AMERICAN ROLAND FOOD CORP.

New York, NY OLIVES; OILS; OLIVE OILS

APRIFOOD LTD. TURKEY FRUIT (DRIED)

ATLANTIC INT'L PRODUCTS Utica, NY VEGETABLES (CANNED)

ATLAS WALNUT Visalia, CA NUTS & SEEDS

BERTAZZONI SPA Roseland, NJ KITCHEN APPLIANCES (Sabbath compliant)

BETTER MADE Bay City, MI NUTS & SEEDS

BOSTON COOKIES Somerville, MA CAKE & PASTRY PRODUCTS: COOKIES

CURTIS INDUSTRIES Cleveland, OH NUTS & SEEDS

DANIN INTERNATIONAL, INC. Chino, CA DIGESTIVE SUPPLEMENTS

DELONGHI Edgewood, NY KITCHEN APPLIANCES (Sabbath compliant)

ECO ACUICOLA SAC PERU VEGETABLES (CANNED)

EDIBLE ARRANGEMENTS #527 Baltimore, MD GIFT BASKETS

FIELDBROOK FOODS Dunkirk, NY NUTS & SEEDS; SNACK FOODS

FRANCO MEYVE IHRACAT TICARET TURKEY

FRUIT (DRIED); VEGETABLES (DRIED) FRUITWORKS

Pikesville, MD GIFT BASKETS GIANT EAGLE, INC.

Pittsburgh, PA FRUIT (FRESH PACKAGED)

GIFTCORP East Hartford, CT FRUIT (DRIED); NUTS & SEEDS

GLORY FOODS, INC. Columbus, OH VEGETABLES (CANNED)

GOOD SOURCE Carlsbad, CA PRETZELS

J. POLEP Chicopee, MA NUTS & SEEDS

JOZEV E. Long Meadow, MA NUTS & SEEDS; SNACK FOODS

KALAMATA FOOD PURVEYORS, INC. Hayward, CA OLIVES: OILS: OLIVE OILS

KATEELAYNE, INC. Nashville, TN CAKE & PASTRY PRODUCTS

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LA TOLTECA TORTILLA FACTORY Santa Barbara, CA TORTILLAS/TACO

LIGHT AND SPELT, INC. New York, NY COOKIES NATIONAL PEANUT BOARD

Atlanta, GA NUTS & SEEDS

PARAMOUNT FARMS Lost Hills, CA NUTS & SEEDS

SALBA SMART NATURAL PRODUCTS Denver, CO TORTILLAS/TACOS STEPHANIE'S SEASONINGS

Milford, OH SPICES & SEASONINGS

STEWART'S Saratoga Springs, NY NUTS & SEEDS

SYSCO CORPORATION Houston, TX FRUIT (FRESH PACKAGED); FRUIT (FROZEN)

TANPA GIDA TURKEY PICKLED PRODUCTS

THE SWEET GIFT Woodridge, NY CHOCOLATE PRODUCTS

TRADER JOE'S Monrovia, CA NUTS & SEEDS; SNACK FOODS

ULTIMATE NUT N. Grosvernordale, CT NUTS & SEEDS

WAX ORCHARDS Seattle, WA CANDY & CONFECTIONERY ITEMS

INDUGTRIAL/INGTITUTIONAL PRODUCTS

(see letter of certification)

BENXI SUNSHINE HEALTH PRODUCTS CHINA HERBAL EXTRACTS

CHINA MEHECO CORP. CHINA

HERBAL EXTRACTS **CLASS PRODUCE GROUP**

Jessup, MD FRUIT (FRESH PACKAGED) CORAL LLC Incline Village, NV

VITAMINS, SUPPLEMENTS & NUTRITIONALS DRYTECH PROCESS INDIA

VEGETABLE GUM ECO ACUICOLA SAC

PERU VEGETABLES (CANNED)

ECOLAB, INC. St. Paul, MN

INDUSTRIAL CHEMICALS FAVASA S.L. SPAIN OLIVES

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FINE ORGANICS INDUSTRIES MUMBAI INDIA INDUSTRIAL CHEMICALS

FOLIENWERK WOLFEN GMBH GERMANY PLASTIC FILMS **GHERKINS AGRO EXPORTS** INDIA PICKLED PRODUCTS

IND-SWIFT LABORATORIES, LTD. INDIA HERBAL EXTRACTS

INTOCELL, LLC Boca Raton, FL NUTRITIONAL SUPPLEMENTS JAMES LAKE FARMS, INC. Wisconsin Rapids, WI

FRUIT (FROZEN) JIANGSU DAHUA PHARMACEUTICAL

CHINA ESSENTIAL OILS & OLEORESINS

JIANGXI HUAYU AROMATIC TECHNOLOGY CHINA FOOD CHEMICALS LIMKON GIDA SANAYI

TURKEY JUICE & JUICE CONCENTRATES

LINGCHUAN HONGYUAN NATURAL PRODUCTS, INC. CHINA HERBAL EXTRACTS

I INVI CITY KANGFA FOODSTUFF DRINKABLE CHINA FRUIT (CANNED): JAMS/PRESERVES:

VEGETABLES (CANNED) MARNEX (XIAMEN) CORP.

CHINA VEGETABLES (FROZEN)

MELIKA TARIM URUNLERI TURKEY FRUIT (DRIED)

MICHAEL WARING TRADING AUSTRALIA NUTS & SEEDS

MORSE CHEMICAL, INC. San Gabriel, CA VITAMINS NANNING BIOCLONE

BIOTECHNOLOGY CO. CHINA ENZYMES

NUTRICEPTS, INC. Burnsville, MN GLUCONATES

PARK CENTRAL TECHNOLOGIES Elburn, IL

EGG PRODUCTS PMP FERMENTATION PRODUCTS Peoria, II GLUCONATES

PT. DWIPA JAVA SPICES INDONESIA SPICES & SEASONINGS

QIANGUO XIAN QIAN XIN INDUSTRIAL CHINA ANTIFOAMS

REDNER'S WAREHOUSE MARKETS Reading, PA

FRUIT (FRESH PACKAGED): VEGETABLES (FRESH)

SHAANXI M.R. NATURAL PRODUCT CO. CHINA HERBAL EXTRACTS SHANDONG LIAOCHENG E HUA PHARMACEUTICAL CO.

CHINA CELLULOSE SICHUAN NEIJIANG HUIXING

PHARMACY CO. CHINA VITAMINS, SUPPLEMENTS & NUTRITIONALS SUBWAY

Milford, CT VEGETABLES (FRESH) TANPA GIDA TURKEY

PICKLED PRODUCTS TIANJIN NORLAND BIOTECH CO. CHINA

VITAMINS, SUPPLEMENTS & NUTRITIONALS **V B MEDICARE PRIVATE LTD.** INDIA SWEETENERS

WHOLE FOODS Austin, TX BREAD PRODUCTS

YANTAI YUNHENG FOODS CO. CHINA CHERRIES

ZHEJIANG BOSSEN INGREDIENTS CO. CHINA INDUSTRIAL CHEMICALS

ZHEJIANG YIXIN PHARM. CO. CHINA HERBAL EXTRACTS

ZHONG YA CHEMICAL LTD. Piscataway, NJ

CITRIC ACID/CITRATES: PRESERVATIVES

NEW UNDER STAR-D

(only when bearing second symbol) The Star-D is a *kashrus* symbol of the National Council of Young Israel (NCYI). The Star-K, in its relationship All Star-D products are dairy - cholov stam (non-cholov Yisroel)

BETTER MADE Bay City, MI NUTS & SEEDS

FIELDBROOK FOODS Dunkirk, NY NUTS & SEEDS; SNACK FOODS

GIFTCORP East Hartford, CT FRUIT (DRIED): NUTS & SEEDS

HICKORY FARMS Maumee, OH SNACK FOODS

JOZEV E. Long Meadow, MA NUTS & SEEDS: SNACK FOODS

PARDOE'S PERKY PEANUTS, INC. Montandon, PA NUTS & SEEDS; PRETZELS; SNACK FOODS

PARK CENTRAL TECHNOLOGIES Elburn, IL EGG PRODUCTS

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the universe, who re-enacts the structure of the creation."² Additional *tefillos* praising the *Ribono Shel Olam* are also recited. Before the *brocha*, *Hallelu es Hashem min Hashamayim*³ is recited. After the *brocha*, *Kail Adon*,⁴ *Mizmor HaShamayim Mesaprim*⁵ and *Aleinu*⁶ are recited. If there is a *minyan*, *Kaddish*⁷ is recited after *Aleinu*.

Ideally, *Birchas Hachama* should be recited before the third hour of the day.⁸ *B'dieved*, one has until *chatzos* (midday) to recite *Birchas Hachama*. It is preferably recited while standing -"*b'rov am*"- with a group of other people.⁹ Women and children should recite the *brocha*, as well. A blind person should be *yotzai* (fulfill his obligation) through hearing someone else make the *brocha*.

If it is cloudy, the following *halachos* apply: If one can see the lines of the sun behind the clouds, one may say *Birchas Hachama*. If it is so cloudy that the sun is not visible, one may not say *Birchas Hachama* with the name of *Hashem*.¹⁰ Rather, shortly before *chatzos* (or when it is obviously going to stay cloudy until *chatzos*) one would say, "*Baruch atah oseh maaseh braishis*," without the name of *Hashem*.

III. WHY EVERY 28 YEARS?

When the world was created, the sun and moon were created on the Wednesday of the week of *bri'as haolam* (creation of the world). On that day, the beginning of spring¹¹ (known as *Tekufas Nissan*) was at 6:00 p.m. on Tuesday, the beginning of the *halachic* day Wednesday.¹²

It takes approximately 365 days and 6 hours¹³ for the Earth to revolve one time around the sun. This is equal to 52 weeks, 1 day and 6 hours. Therefore, in the following year (after the world was created) spring began early Thursday at midnight (midnight early Thursday is one day of the week and 6 hours after Tuesday at 6:00 p.m.). The following year it began at

¹ Berachos 59b. The halacha is addressed in Shulchan Aruch - Orach Chaim 229:2.

² This is the same *brocha* recited upon seeing lightning, very tall mountains or the Mediterranean Sea (the *brocha* recited upon seeing an ocean is different).

- ³ Tehillim 148
- ⁴ This is from the Shabbos morning davening.
- ⁵ Tehillim 19
- ⁶ Mishna Brura 229:8. See also Teshuvos Chasam Sofer 1:56. There are various other customs as to which psukim and tefillos are recited before and after the brocha.
- ⁷ "Kaddish Yasom"/Mourner's Kaddish
- ⁸ Sof z'man K'rias Shma, according to the opinion of the Gra.
- 9 "B'rov Am Hadras Melech". We honor Hashem when a group of people perform the mitzvos together. Of course, one can say Birchas Hachama alone, but it should ideally be said with a minyan or with at least two other people (the minimum "rov am" is three see Chaye Adam 68:11).

¹⁰ Mishna Brura 229:8, who quotes the Teshuvos Chasam Sofer 1:56. Note the Panim Meiros 2:30 states that it is enough to see the light of the sun as opposed to the actual sun. Therefore, even if it is cloudy, one may say Birchas Hachama by going outside and seeing "sunlight". The Mishna Brura rejects this view. Alternatively, one could go to a tall mountain or very large body of water and recite, "Osch maasch braishis," having in mind Birchas Hachama (see Sefer Shaarei Zmanim, Siman 3, footnote 4. See also Siman 3, Section 3 regarding whether Birchas Hachama can be said in countries west of Eretz Yisroel on Tuesday, if the weather forecasters predict that on Wednesday it will be very cloudy).

¹¹ This goes according to the opinion of Rebbi Yehoshua (Rosh Hashana 11a) that "B'Nissan Nivra Ha'olam", the world was created at the beginning of Spring. Regarding molados (new moon) and in the davening of Rosh Hashana (when we say, "Zeh Hayom Techilas Ma'asecha"), we follow the opinion of Rebbi Eliezer, who holds "B'Tishrei Nivrah Ha'olam," the world was created at the beginning of Autumn. For a detailed discussion of this topic, see Tosfos Rosh Hashana (8a-L'Ikufos and 27a-K'mahn), Sefer Shaarei Zmanim Siman 2 and Sefer Mayim Rabim Siman 1.

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6:00 a.m. on Friday, the following year at noon on *Shabbos* and the year after that at 6:00 p.m. on Sunday. Every four years, the time of the *tekufa* moved five days of the week later (e.g. from 6:00 p.m. Tuesday to 6:00 p.m. Sunday). After 28 years,¹⁴ it returned to the same time that it was at *Brias Haolam*, 6:00 p.m. Tuesday the beginning of "*Lail Revi*'i" (*halachically* Wednesday). So, in year 29 (counting from the creation), 57, 85, 113 and every 28th year after that, including most recently in 5713 (1953) and 5741 (1981) the *tekufa* was at 6:00 p.m. on Tuesday and *Birchas Hachama* was recited the next day. Once again, it will be at 6:00 p.m. on Tuesday this year. After this year, the next time *Birchas Hachama* will be recited will be in 5797 (2037) and then again in 5825 (2065).

IV. THE DATE

Birchas Hachama is always recited on a Wednesday. In the 20th and 21st centuries, it is recited on April 8.¹⁵ The Hebrew date can vary. In the past 400 years, *Birchas Hachama* has been said as early as the 27th of *Adar* II (in 5461 [1701]) and as late as the 26th of *Nissan* (in 5545 [1785] and 5629 [1869]).¹⁶

Birchas Hachama can be recited on Yom Tov. It will be recited on the seventh day of *Pesach* (scheduled for 5881 [2121]) and was said on the second day of *Pesach – Yom Tov* outside of Israel (in 5601 [1841]). It cannot be recited on the first or eighth day of *Pesach*, as these days never occur on Wednesday. This year, 5769 (2009), *Birchas Hachama* will be recited on *Erev Pesach*.¹⁷ According to the calculations of the calendar,¹⁸ in 5797 (2037) *Birchas Hachama* will be recited on *Isru Chag Pesach*; in 5825 (2065), it will be said on the 2nd of *Nissan*.

Klal Yisroel is *zoche* (merits) to have two types of *mitzvos*. Some *mitzvos* are performed frequently, on a daily or weekly basis; other *mitzvos* are performed infrequently. Both types of *mitzvos* are done to better serve the *Ribono Shel Olam*. One

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¹² The Jewish day begins at night. Hence, at the beginning of spring, the new day begins at 6:00 p.m. when the sun sets and night begins. "Sunday" begins at 6:00 p.m. Saturday. "Monday" begins at 6:00 p.m. Sunday, etc. It should be noted that the "fixed" time of 6:00 p.m. for the beginning of any day of the year only relates to *tekufos* and *molados* (new moon). Regarding *Shabbos* and *Yom Tov*, the day begins at sunset and ends the next day when the stars come out. In the winter, this will be before 6:00 p.m., and in the summer after 6:00 p.m. Davening times also vary depending upon the season.

¹³ In reality, the earth takes 365 days, 5 hours, 48 minutes, 46 seconds to revolve around the sun. As will be discussed, Shmuel sacrificed accuracy for simplicity and used the rounded number of 365 1/4 days.

- 14 Every four years, the tekufa is once again at 6:00 p.m., five days of the week later than the last time the tekufa occurred. After seven sets of four years (i.e. 28 years), it returns to 6:00 p.m. Tuesday.
- ¹⁵ Birchas Hachama and the secular date are both based on the seasons which are based only on the sun. Therefore, the secular date of Birchas Hachama is the same every time it is recited. The date changes every century when the Gregorian calendar skips a leap date (i.e. when there is no February 29 in years ending in "00", not divisible by 400). Therefore, in the 19th century, Birchas Hachama was said on April 7. It will switch do April 8 when there was no February 29, 1900. After 2100, when February 29 will not occur, it will switch to April 9. It should be noted that Vsain Tal U'matar also begins at the same time on the solar calendar every year (either December 4th or 5th at Maariv) because Tal U'matar is also based on the tekufos (60th day of Tekufas Tishrei/Fall). Every century, when there is no February 29, Tal U'matar also shifts a day. In the 19th century, it began December 3 or 4 at Maariv. In the 22nd century, it will begin on December 5th or 6th at Maariv.
- ¹⁶ An obvious question arises. If Pesach must occur in the spring (Tekufas Nissan) and Birchas Hachama occurs on the morning after Tekufas Nissan, how is it possible for Birchas Hachama to occur after Pesach (e.g. in 2037)? Birchas Hachama after Pesach means that the first day of Tekufas Nissan is after Pesach and, therefore, Pesach is before Tekufas Nissan and is still in the winter.

The answer is that there are two different ways of calculating the *tekufa*, one according to *Shmuel* and the other according to *Rav Ada*. As previously indicated, *Shmuel's tekufa* is based on a year that is 365 days, 6 hours and is the *tekufa* used for *Birchas Hachama* and *Tal U'matar* (60th day of *Tekufas Tishrei/Fall). Rosh Hashanah*, Yomim Tovim, and the calendar are based on the *tekufa* as calculated by *Rav Ada*, which is closer to the scientific calculation of the beginning of Spring. Since these two times are slowly drifting away from each other (*Tekufas Shmuel* is moving later in relationship to *Tekufas Rav Ada*, while *Birchas Hachama* is based on *Tekufas Shmuel*.

the Institute

SHAILOS FROM THE INSTITUTE OF HALACHAH



RABBI MORDECHAI FRANKEL DIRECTOR OF THE INSTITUTE OF *HALACHAH*

Wy freezer has an ice making machine, which has an arm that rises as ice is produced and lowers when ice is removed. I generally turn the machine off before *Shabbos* by lifting the arm until it is fully raised. If I forget to do this, can I remove ice on *Shabbos* from the ice maker?

H: There are various types of ice maker machines available, and they do not all work in the same way. However, many of the commonly available models employ the following mechanism. The ice making process begins when the ice maker signals the water valve to open, and a specified amount of water then flows into the ice mold. When the thermostat senses that the water has frozen into ice, it signals that the heating coil under the ice maker should start to heat up, thereby loosening the ice cubes from the mold surface. The ejector gear then rotates the ejector blades. As the blades revolve, they scoop the ice cubes up and out of the mold and push them out of the icemaker into a collection bin. A shut-off arm extends from the ice maker over the collection bin. During each ice making cycle, the arm rises up and then drops back down after the new ice is dumped into the collection bin. As ice accumulates in the bin, it prevents the arm from dropping back down. When the arm is high enough, the ice maker shuts off and no more ice is made until the ice level in the bin drops. The arm can be manually raised further to the indent position, in which the arm remains raised and the ice maker does not operate.



A person who would like to remove ice from the collection bin on *Shabbos* should raise the arm to the indent position before *Shabbos*. If one did not do so, we would have to consider the position of the arm before deciding whether or not one can take ice on *Shabbos*.

If the collection bin was filled with ice so that the arm was raised and the ice maker had shut off, then raising the arm to the indent position would not involve any *melochoh* and could be performed on *Shabbos*. However, the arm should be considered to be *muktza* and should not be moved directly with one's hand.¹ It should be raised through *tiltul min hatzad*, lifting it with another implement, for example raising the arm with a spoon.² As mentioned, this can only be done if the ice maker had already shut off, which can be difficult to ascertain.

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If the bin was not filled with ice and the ice maker had not shut off, then removing any ice will lower the arm, thereby causing the ice maker to stay on longer. This will cause the heating coil to cycle on and off additional times during the course of *Shabbos*. Rabbi Heinemann, *shlit"a*, is of the opinion that one should not do this on *Shabbos*.³ One possible solution would be to prop up the arm in such a way that it would not move when ice was removed from the bin.

However, in the above scenario, it is also possible that the ice maker would have continued to produce ice until the end of *Shabbos*, even if no ice had been removed. In this case, removing any ice only causes the ice machine to stay on longer **after** *Shabbos*. Therefore, removing the ice and further lowering the arm does not cause any greater *melochoh* to be performed on *Shabbos*. If one knows for certain that this is the case, then it would be permissible to remove ice on *Shabbos*.⁴ The new ice that the ice machine would continue to make on *Shabbos* would not be *muktza* and could be used on *Shabbos*.⁵

The above is true only for the ice maker described above. However, there are other ice makers which have different mechanisms, for example an electronic eye which determines the amount of ice in the collection tray. Alternative mechanisms would, of course, have different rules for *Shabbos* usage. Ensuring that the arm of an ice maker is in the indent position before *Shabbos* would avoid all of these concerns.

I recently purchased a new hot water heater which has an electronic ignition system. Can I use hot water in my house on *Yom Tov*?

A: There are various types of hot water heaters. In order to answer the question, we have to consider both tank and tankless hot water heaters. In a tank heater, hot water is stored in a tank and some of that water exits the tank whenever the hot water faucet is opened. The water which has left the tank is replaced with cold water. When the thermostat in the tank registers the drop in temperature, the heating system begins to heat the water in the tank. The heating system might have a standing pilot light, or it might use an electronic ignition.

A tank heater that has a pilot light can be used on *Yom Tov.*¹ In these heaters, the pilot light always stays on. This pilot light in turn ignites another flame which heats the tank with the incoming water. On *Yom Tov*, one is allowed to light a fire from a pre-existing flame in order to heat the water.² Therefore, this type of heater can be used for any *Yom Tov* need.³

A tank heater that uses electronic ignition can also be used on *Yom Tov*. In this type of heater there is no continuous flame, and the electronic system ignites a new fire when needed. Since one is forbidden to create fire on *Yom Tov*,⁺ one might assume that it would therefore be forbidden to open the faucet. However, there are two reasons why one is in fact allowed to open the hot water faucet on *Yom Tov*.

First, the heater goes on intermittently in any case to ensure that the water in the tank stays hot. Therefore, it may already be



on when the faucet is opened.5 Second, even if the heater was not previously turned on, opening the faucet does not immediately activate the heater. The thermostat will register the temperature drop only after new water enters and cools the existing water in the tank. This, in turn, will cause the heater to start. Therefore, opening the faucet will indirectly activate the ignition.6 For these reasons, it is permissible to use such a heater on Yom Tov.

However, there are some heaters which do not have a tank. In these heaters, no hot water is stored. Rather, opening the hot water faucet causes cold water to circulate through hot coils which heat the water as it travels to the faucet. In such a system, there is no time delay and the heating system goes on as soon as the faucet is opened. Once again, this system might have a standing pilot light or it might use electronic ignition.

In the case of a tankless water heater with electronic ignition, as soon as one opens the hot water faucet a heating source is immediately ignited electronically. For example, the manufacturers of the Paloma Tankless Water Heater write in their promotional literature, "When you turn on the tap in your bathroom, it's as if you turned the key of your ignition system on your car." Since one cannot start a car on Yom Tov, Rabbi Heinemann, shlit"a, likewise feels that this type of heater cannot be used on Yom Tov.

As stated above, a system with a pilot light can be used on Yom Tov. Therefore, a tankless heater with a pilot light would be usable on Yom Tov. However, some tankless water heaters with a pilot light also have a ventilation fan which switches on every time one opens the faucet. Rabbi Heinemann feels that this type of heater cannot be used on Yom Tov. Possibly, a system could be devised whereby one could switch off the fan for Yom Tov, or one could arrange to have the fan go on and off at pre-set intermittent intervals.

Tankless water heaters are increasingly popular, as they are said to be more energy efficient. Since people often do not know which type of heater they have, they should be aware of this issue.

From freezers to heaters and everything in between, halachic queries on all topics can be addressed to The Institute of Halacha at the Star-K. Phone: (410) 484-4110 Ext. 238 E-mail: halacha@star-k.org

¹ נראה לדמות זה למה שדנו האחרונים גבי מחוג הנמצא בשעון שבת האם הוי מוקצה, שבשו״ת מנחת שלמה ח״א סי גופו ומקומו. אמנם בשויית ואין אם טאמי שזוא מוקצו כבלי שמקאמתו קאושון מיש מותר להזיזו דהוייל לצורך גופו ומקומו. אמנם בשויית אגרות משה יויד חייג סיי מז אות ד כתב שהוא מוקצה ואסור להזיזו אפילו במקום שאין איסור אחר כרוך בדבר, ועיי בספר שבות יצחק חייו דף קמו בהערה משייכ לבאר מדוע לדעת האגרות משה אין זה כסלטטול לצורך גופו ומקומו. יג כתב שהמחוג אינו מוקצה ואף אם נאמר שהוא מוקצה ככלי שמלאכתו לאיסור מ״מ מותר להזיזו דהו״ל כלצורך

ע״פ המ״ב סיי שח ס״ק קטו שמותר להעביר קליפות ועמצות ע״י סכין דהוי כטלטול מן הצד לצורך דבר המותר. אמנם

פי יג הערה צר בשם הגרשייז אויערבאך זצ"ל. 4 כן פסק מויר רי היינעמאן שליטייא. 5 בשויית דובב מישרים מהגאון מטשעבין זצ"ל אסר לעשות קרח בשבת אפילו במקום צורך. ובשויית חלקת יעקב אזייח סיי

קכח וסיי קכט ובשו״ת שבט הלוי ח״ג סיי נה כתבו שיש להתר במקום צורך בפשיטות, וכ״נ מדברי הגרש״ז אויערבך זצ״ל המובאים בששייכ פי י הערה יד. אמנס כאן שהקרח כבר נעשה מאליו נראה שיש להתירו לכויע כמשייכ במייב סיי שיח סייק קז, ועיי בששייכ שם הערה י בשם הגרשייז אויערבאך זצייל משייכ בזה. ובנידון דידן הרי כבר מערב שבת עומד המכשיר לעשות עוד קרח בלי פעולת אדם, ויש לדון שזה דומה למי שנתן מים בתוך המקרר מבעוד יום ונעשה קרח בשבת שמותר לכתחלה לכו "ע וכמש"כ בחלקת יעקב שם ובשש"כ שם הערה ט בשם הגרש"ז אויערבאך זצ"ל.

¹ עני בששייכ פייב הערה כב בשם הגרשייז אויערבאך זצ״ל שאפילו אם מוציא מים שעה קלה לפני צאת החג שרי ולא אסרינן מחמת המים הנכנסים ונתבשלים שלא לצורך יו״ט. 2 מלאכת הבערה מותרת ביו״ט כמשייכ בשוייע סיי תצה סעיי א, ומתוך שהותרה לצורך הותרה נמי שלא לצורך כמשייכ

בשויע סיי תקיח סעיי או במייב שם סייק א. 4 גבל הבעתה שלא לצורך ינייט כלל אסור, עיי בשויע סיי תקיד סעיי הו במייב סיי תקיח סייק או בביהיל שם דייה מתוך. 4 שיריט סיית תקב סעיי א, ועי בביהיל שם דייא אין שנחלקו אם הוא איסור דאורייתא או דרבנן, ורוב האחרונים הסכיכו שהוא איסור דרבנן כמשייכ בשוית חלקת יעקב אוייח סיי עב אות ו, ועיי בריש ספר מאורי אש להגרשייז איוערבאך זצייל

כמה הוכחות שהוא איסור דרבון. ⁵ ששייכ פייב הערה כג בשם הנרשייז אויערבאך זציל, ועיי משייכ במנחת שלמה חייא סיי י אות חיי בענין ספק פסיק רישא דלשעבר, ועייע בשויית אניימ אוייח חייד סיי עד אות כח. ⁶ ששייכ פייב הערה כג בשם הגרשיזי אויערבאך זציל, ועייע בשויית מנחת שלמה שם אות יי.

Leadership in

Birchas Hachama 5769

CONTINUED FROM PAGE 5

purpose of frequently performed *mitzvos* is to become more consistent in our connection to Hashem. How beautiful it is when Yidden daven day in and day out, or when the Nashim Tzidkaniyos (righteous women) faithfully light candles every single Erev Shabbos and Yom Tov.

Infrequently performed mitzvos, such as Birchas Hachama, offer Klal Yisroel the opportunity to serve Hashem with special hischadshus, renewed anticipation and excitement in serving the Borai Olam (Creator). This is a mitzvah that is performed by Yidden throughout the world - usually only three times in one's life. May we merit the recitation of Birchas Hachama with Moshiach Tzidkainu who should come bimhaira b'yamainu, speedily in our days.

Tekufas Rav Ada is based on 235 lunar months (the 19 year cycle, with seven leap years to ensure that Pesach remains in the Spring) divided by 19. This calculates the "average" lunar year. It is 365 days, 5 hours, 997 chalakim and 48 regaim (997 chalakim and 48 regaim are equal to 55 minutes and 2.1 seconds, as each chalek is 3 1/3 seconds and each "rega" is 1/76 of a chalek).

The Chazon Ish (OC Siman 138, se'if katan 4) explains that the calculations of Chazal are slightly The *Chazon* 1sh (OC Siman 138, se'l katan 4) explains that the calculations of *Chazol* are slightly different from the calculations of science to make them more simple to use. This concept of sacrificing precision for simplicity is also found in the *Gemara*, including *Sukka* 8a (regarding square roots in calculating the hypotenuse of a triangle – see Tosfos). The purpose of mitry to its cacept the Heavenly yoke and to fulfill the "chochmas haTorah" (wisdom of the Torah). These must also be performed by "challakei hada'as," individuals who may be academically and mathematically weak. Therefore, in certain cases as determined by *Chazal, mitry* or precise calculations. In other words, that have been rounded off for simplicity and do not proving precise calculations. that have been rounded off for simplicity and do not require precise calculations. In other words, since all of *Klal Yisroel* must perform these *mitzvos*, we must utilize a simple calculation to avoid mass confusion. *Tekufas Rav Ada* is closer to the scientific calculation but is also not precise. Once again, a small degree of accuracy was sacrificed to achieve the "simplicity" of basing the calendar on the average lunar year. It should also be noted that using a precise solar calculation would mean an inaccurate average of the lunar months. For a detailed discussion of this issue, see *Sefer* Shaarei Zmanim Siman 1

¹⁷ The Ostrovtzah Rebbe, zt"l, as quoted in Sefer Me'ir Aini Chachamim, says that since the creation of the world, Birchas Hachama was recited on Erev Pesach on three occasions – the day before the exodus from Egypt, at the time Mordechai and Esther fasted after the decree of Haman, and "very soon", referring to 5685 (1925) as the Rebbe discussed in the early 1900s. There are two questions on this explanation: 1) If Birchas Hachama is recited every 28 years, it was recited in 2437 and 2465, and the exodus from Egypt was during or next to the year 2448, when Birchas Hachama was not solved by the story of Purtur took place during or next 100 by the car 3080 which is nouvbler peer 3389 and 3417 said. The story of *Purim* took place during or near 3405, which is nowhere near 3389 and 3417, the years of *Birchas Hachama*. 2) Furthermore, *Birchas Hachama* was recited on several occasions on *Erev Pesach* (after the stories of *Pesach* and *Purim*), including the following years: 4369 (609), 4453 (693) and 5069 (1309). Therefore, the Ostrovtzah Rebbe's statement needs further clarification, V(zarich iyun. See Sefer Sharrei Zmanim 1:8. [It should be noted that this year,*Erev Pesach*will be only the third time in the last 1300 years that both the preparation of an*Eruv Taxihili*and therecitation of Birchas Hachama will occur on the same day.]

¹⁸ When Moshiach comes, bimhaira byameinu, we will establish Rosh Chodesh based on witnesses and there may be slight variations in the Jewish calendar, which is currently based on calculations.



Star-K Kushrus Training Program

Star-K's 6th Annual *Kashrus* Training Program is gearing up for another season this summer. This highly acclaimed intensive seminar is held at Star-K's offices in Baltimore, Maryland, and is limited to 25 students – *rabbonim*, *kollel* members, and others serving as *klei kodesh* – who have studied *Yorah Deah*. In addition to lectures, audio-visual presentations and a hands-on practicum, several field trips are planned. Applications will be available beginning in February. Stay tuned for details!



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