

# Cheese

Stanton St. Shul Shavuot 2011/5711

## I. What is Cheese?<sup>1</sup>

Cheese is a generic term for a diverse group of milk-based food products. Cheese is produced throughout the world in wide-ranging flavors, textures, and forms.

Cheese consists of proteins and fat from milk, usually the milk of cows, buffalo, goats, or sheep. It is produced by coagulation of the milk protein casein. Typically, the milk is acidified and addition of the enzyme rennet causes coagulation. The solids are separated and pressed into final form

For a few cheeses, the milk is curdled by adding acids such as vinegar or lemon juice. Most cheeses are acidified to a lesser degree by bacteria, which turn milk sugars into lactic acid, then the addition of rennet completes the curdling. Vegetarian alternatives to rennet are available; most are produced by fermentation of the fungus *Mucor miehei*, but others have been extracted from various species of the *Cynara* thistle family.

### Rennet

Rennet is a complex of enzymes produced in any mammalian stomach to digest the mother's milk, and is often used in the production of cheese. Rennet contains many enzymes, including a proteolytic enzyme (protease) that coagulates the milk, causing it to separate into solids (curds) and liquid (whey). The active enzyme in rennet is called chymosin or rennin (EC 3.4.23.4) but there are also other important enzymes in it, e.g., pepsin and lipase. There are non-animal sources for rennet that are suitable for vegetarian consumption.

### Vegetable rennet

Many plants have coagulating properties. Homer suggests in the Iliad that the Greeks used an extract of fig juice to coagulate milk. Other examples include nettles, thistles, mallow, and Ground Ivy (Creeping Charlie). Enzymes from thistle or cynara are used in some traditional cheese production in the Mediterranean. Phytic acid, derived from unfermented soybeans, or genetically modified (GM) soy rennet may also be used.

These real vegetable rennets are also suitable for vegetarians. Vegetable rennet might be used in the production of kosher and halal cheeses but nearly all kosher cheeses are produced with either microbial rennet or genetically modified rennet. Worldwide, there is no industrial production for vegetable rennet. Commercial so-called vegetable rennets usually contain rennet from the mold *Mucor miehei* - see microbial rennet below.

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<sup>1</sup> Text courtesy of Wikipedia: <http://en.wikipedia.org/wiki/Cheese> and <http://en.wikipedia.org/wiki/Rennet>

## **Microbial rennet**

Some molds such as *Rhizomucor miehei* are able to produce proteolytic enzymes. These molds are produced in a fermenter and then specially concentrated and purified to avoid contamination with unpleasant byproducts of the mold growth. At the present state of scientific research, governmental food safety organizations such as the European Food Safety Authority deny QPS (Qualified Presumption of Safety) status to enzymes produced especially by these molds.

The flavor and taste of cheeses produced with microbial rennets tend towards some bitterness, especially after longer maturation periods. These so-called "microbial rennets" are suitable for vegetarians, provided no animal-based alimentation was used during the production.

## **Genetically engineered rennet**

Because of the above imperfections of microbial rennets, some producers sought further replacements of natural rennet. With the development of genetic engineering, it became possible to use cow genes to modify some bacteria, fungi or yeasts to make them produce chymosin. Chymosin produced by genetically modified organisms was the first artificially produced enzyme to be registered and allowed by the US Food and Drug Administration. In 1999, about 60% of US hard cheese was made with genetically engineered chymosin and it has up to 80% of the global market share for rennet. By 2008, approximately 80% to 90% of commercially made cheeses in the US and Britain were made using GM-based rennet. One example of a commercially available genetically engineered rennet is Chymax, created by Pfizer. Today, the most widely used genetically engineered rennet is produced by the fungus *Aspergillus niger*.

Cheese production with genetically engineered rennet is similar to production with natural calf rennet. GMO-produced rennet contains only one of the known main chymosin types, either type A or type B. Other chymosin types found in natural rennet do not exist in GMO-produced rennet.

Often, a mixture of genetically engineered chymosin and natural pepsin is used to imitate the complexity of natural rennet and to get the same results in coagulation and in development of flavor and taste.

The so-called "GM rennets" are suitable for vegetarians if there was no animal-based alimentation used during the production in the fermenter. However, genetically engineered rennet is often produced from soy or phytic acid, which is unsuitable for people who have soy-based allergies.

## **Acid coagulation**

Milk can also be coagulated by adding an acid, such as citric acid.

Cream cheese, paneer, and rubing are traditionally made this way, and this form of coagulation is sometimes used in cheap mozzarella production without maturation of the cheese.

## II. Rabbinic Discussions

### A. Core Ingredients

<p><b>1a. M. Avoda Zara 2:6</b> The following articles of heathens are prohibited but the prohibition does not extend to all use of them: milk which a heathen milked without an Israelite watching him...</p> <p><b>1b. M. Avoda Zara 2:7</b> The following are permitted to be eaten [by an Israelite]: milk which a heathen milked with an Israelite watching him...</p>	<p><b>1. משנה מסכת עבודה זרה פרק ב משנה ו</b> אלו דברים של עכו"ם אסורין ואין איסורן איסור הנאה חלב שחלבו עכו"ם ואין ישראל רואהו</p> <p><b>משנה מסכת עבודה זרה פרק ב משנה ז</b> אלו מותרין באכילה חלב שחלבו עכו"ם וישראל רואהו</p>
<p><b>2a. M. Hullin 8:5</b> The [milk in the] stomach [of an animal] of a gentile or [in the stomach of] a <i>neveila</i> is forbidden. If a man curdled milk with the skin of the stomach of an animal that was validly slaughtered and it imparted its flavor [to the milk]. It is forbidden. The [milk in the] stomach of a validly slaughtered animal which had sucked from a <i>tereifa</i> animal is forbidden; the [milk in the] stomach of a <i>tereifa</i> animal which had sucked from a valid animal is permitted, because the milk remains collected inside. [It does not mix with the other fluids in the stomach of the <i>tereifa</i> animal, but remains separate and distinct and is therefore permitted.]</p> <p><b>2b. B. Hullin 116b</b> With regard to our own, since we keep away from unclean animals, and whenever we see them together we separate them, the Rabbis imposed no restriction as a precaution; with regard to theirs, however, since they do not keep away from unclean animals, and whenever they see them together they do not separate them, the Rabbis imposed a restriction as a precaution. ...</p> <p>R. Hiyya b. Abba said in the name of R. Johanan: One may curdle [milk] with the [milk in the] stomach of a <i>neveila</i>, but not — with the [milk in the] stomach of an animal slaughtered by an idolater. Thereupon R. Simeon b. Abba said before him: This is, is it not, in accordance with the view of R. Eliezer who maintains that the thoughts of an idolater are usually directed towards idolatry? — He replied: Of course. According to whom else could it be? When R. Samuel b. R. Isaac came [from Palestine] he reported in the name of R. Johanan: One may curdle [milk] with the [milk in the] stomach both of a <i>neveila</i> and an animal slaughtered by an idolater for we are not</p>	<p><b>2. משנה מסכת חולין פרק ח משנה ה</b> קבת נכרי ושל נבלה הרי זו אסורה המעמיד בעור של קבה כשרה אם יש בנותן טעם הרי זו אסורה כשרה שינקה מן הטרפה קבתה אסורה טרפה שינקה מן הכשרה קבתה מותרת מפני שכנוס במיעיה</p> <p><b>תלמוד בבלי מסכת חולין דף קטז עמוד ב</b> אנן דבדלינן מינייהו, וכי חזינן להו מפרשינן להו - לא גזרו בהו רבנן, אינהו דלא בדילי מינייהו, וכי חזו להו לא מפרשי להו - גזרו בהו רבנן....</p> <p>אמר רבי חייא בר אבא אמר רבי יוחנן: מעמידין בקבת נבלות, ואין מעמידין בקבת שחיטת עובד כוכבים; אמר לפניו רבי שמעון בר אבא: כמאן - כרבי אליעזר, דאמר סתם מחשבת עובד כוכבים - לעבודת כוכבים! א"ל: ואלא כמאן? כי אתא רב שמואל בר רב יצחק אמר רבי יוחנן: מעמידין בין בקבת נבלה בין בקבת שחיטת עובד כוכבים, שלא לחוש לדברי רבי אליעזר. והלכתא: אין מעמידין בעור קבת נבלה, אבל מעמידין בקבת נבלה ובקבת שחיטת עובד כוכבים, (ובקבת כשרה שינקה מן הטרפה, וכ"ש בקבת טרפה שינקה מן הכשרה, מ"ט - חלב המכונס בה, פירשא בעלמא הוא).</p>

<p>concerned with the view of R. Eliezer. The law is: One may not curdle [milk] with the skin of the stomach of a <i>neveila</i>, but one may with the [milk in the] stomach of a <i>neveila</i>, and also with the [milk in the] stomach of an animal slaughtered unto idolatry. ([One may also curdle milk] with the [milk found in the] stomach of a validly slaughtered animal which had sucked from a <i>tereifa</i> animal, and certainly with the [milk found in the] stomach of a <i>tereifa</i> animal which had sucked from a valid animal, because the milk that is collected within is considered as dung.)</p>	
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## B. Cheese

<p><b>3. M. Avoda Zara 2:4</b>  Muries and Bithynian cheese of the heathens are forbidden, the prohibition extending to any benefit, this is the opinion of R. Meir. But the sages say that the prohibition does not extend to any benefit. (The reason given (infra 34b) is that in Bithynia many calves were offered to the idols; it is therefore to be suspected that their rennet is used in preparing the cheese.)</p>	<p><b>3. משנה מסכת עבודה זרה פרק ב משנה ד</b>  המורייס וגבינות בית אונייקי של עכו"ם אסורין ואיסורן איסור הנאה דברי רבי מאיר וחכמים אומרים אין איסורן איסור הנאה :</p>
<p><b>4. M. Avoda Zara 2:5</b>  R. Judah said: R. Ishmael put this question to R. Joshua as they were on a journey, 'why,' asked he, 'have they forbidden the cheese of heathens?' [Why do the Sages forbid the eating of such cheese, seeing it is only made from the milk of 'clean' animals] He replied, <u>because they curdle it with the rennet of a <i>neveila</i></u>. He retorted: 'but is not the rennet of a burnt-offering more strictly forbidden than the rennet of a <i>neveila</i>? [And yet] it was said that a priest who is not fastidious may suck it out raw (though this opinion was not approved, and it was said that no benefit may be derived from it, although no trespass would apply thereto).' <u>'The reason then, [R. Joshua said,] is because they curdle it with the rennet from calves sacrificed to idols.'</u> Said he, 'if that be so, why do they not extend the prohibition to any benefit derived from it?' He, however, <u>diverted to another matter, saying:</u> 'Ishmael, how do you read — for thy [masc.] Love is better than wine or thy [fem.] Love etc.' he replied: 'thy [fem.] Love is better ...' he retorted: this is not so, as it is proved by its fellow [-verse]: thine ointments have a goodly fragrance [wherefore the maidens love thee].</p>	<p><b>4. משנה מסכת עבודה זרה פרק ב משנה ה</b>  אמר רבי יהודה שאל רבי ישמעאל את רבי יהושע כשהיו מהלכין בדרך אמר לו מפני מה אסרו גבינות העכו"ם אמר לו מפני שמעמידין אותה בקיבה של נבלה אמר לו והלא קיבת עולה חמורה מקיבת נבלה ואמרו כהן שדעתו יפה שורפה חיה ולא הודו לו אבל אמרו אין נהנין ולא מועלין חזר אמר לו מפני שמעמידין אותה בקיבת עגלי ע"ז אמר לו אם כן למה לא אסרוה בהנאה השיאו לדבר אחר אמר לו ישמעאל אחי היאך אתה קורא (שיר/השירים/ אי) כי טובים דודיך מיין או כי טובים דודיך אמר לו כי טובים דודיך אמר לו אין הדבר כן שהרי חבירו מלמד עליו לריח שמניך טובים :</p>

<p><b>5. B. Avoda Zara 34b</b> Said R. Simeon b. Lakish: The reason why Bithynian cheese has been forbidden is <u>because the majority of calves of that place are slaughtered [as sacrifices] to idols</u>. Why say 'the majority of calves'? Even if it were the minority it would have sufficed, since R. Meir always takes the minority into consideration! — When we say the majority [of calves] we really have only a minority [of cattle], but were only a minority of calves slain for idolatry — seeing that there would have been a majority of calves not slain for idolatry to which would have to be added all other cattle that are not slaughtered for idolatry — they would really have formed a minority of a minority, and even R. Meir does not take a negligible minority into consideration.</p> <p>Said R. Simeon b. Eliakim to R. Simeon b. Lakish: What matters it if they are slaughtered for idolatry, seeing that you yourself permit [something similar]? For it has been stated: If one slaughters an animal with the intention of sprinkling its blood for idolatry, or offering its fat for idolatry, R. Johanan says that the animal is forbidden, as in his opinion the one sacrificial process is to be connected with the other process, and the slaughtering without the sanctuary is deduced from that within it; R. Simeon b. Lakish, however, says it is permitted! — He replied: You are to be congratulated [on your acumen; but in our case we assume that] he declares that he worships [the idol] with the completion of the slaughtering.</p>	<p><b>5. תלמוד בבלי מסכת עבודה זרה דף לד עמוד ב</b> וגבינת בית אונייקי. ארשב"ל: מפני מה אסרו גבינת אונייקי? מפני שרוב עגלים של אותה עיר נשחטין לעבודת כוכבים. מאי איריא רוב עגלים? אפילו מיעוט נמי, דהא ר"מ חייש למיעוטא! אי אמרת רוב, איכא מיעוט, אלא אי אמרת מיעוט, כיון דאיכא רוב עגלים דאין נשחטין לעבודת כוכבים, ואיכא נמי שאר בהמות דאין נשחטין לעבודת כוכבים - ה"ל מיעוטא דמיעוטא, ומיעוטא דמיעוטא לא חייש ר"מ. א"ל ר"ש בר אליקים לר"ש בן לקיש: כי נשחטין לעבודת כוכבים מאי הוי? והא את הוא דשרי! דאתמר: השוחט את הבהמה לזרוק דמה לעבודת כוכבים, להקטיר חלבה לעבודת כוכבים - רבי יוחנן אמר: אסורה, קסבר מחשבין מעבודה לעבודה, וילפינן חוץ מפנים, ורשב"ל אמר: מותרת! א"ל: תרמינך שעתך, באומר: בגמר זביחה הוא עובדה.</p>
<p><b>6. B. Avoda Zara 35a</b> Could he not, in reply, have given the reason that the forbidden matter is not present in substance? For take the case of Muries; is not the reason why the Rabbis did not forbid the derivation of any benefit from it because the forbidden matter is not there in substance? — I will tell you: Since it is [the rennet] that keeps the milk curdled it must be regarded as though the prohibited matter is there in substance.</p>	<p><b>6. תלמוד בבלי מסכת עבודה זרה דף לה עמוד א</b> ולחדר ליה: משום דליתיה לאיסורא בעיניה, דהא מורייס לרבנן דלא אסרוהו בהנאה מ"ט: לאו משום דליתיה לאיסורא בעיניה! אמרי: הכא כיון דאוקמיה קא מוקים, חשיב ליה כמאן דאיתיה לאיסוריה בעיניה.</p>
<p><b>7. B. Avoda Zara 35a-b</b> Why did he ask him just about this verse? Said R. Simeon b. Pazi (some say R. Simeon b. Ammi): He hinted at the beginning of this verse: Let him kiss me with the kisses of his mouth, [saying]: 'Ishmael, my brother, press thy lips one to the other and do not be eager to ask for an answer.' [To the question why heathen's cheese is forbidden] For what reason? — Said Ulla (some say R. Samuel b. Aba): This is a new ordinance about which one should not particularize.</p>	<p><b>7. תלמוד בבלי מסכת עבודה זרה דף לה עמוד א-ב</b> מ"ש האי קרא דשייליה? אר"ש בן פזי, ואיתימא ר"ש בר אמי, מרישיה דקרא קא"ל: +שיר השירים א+ ישקני מנשיקות פיהו, אמר ליה: ישמעאל אחי, חשוק שפתותיך זו בזו ואל תבהל להשיב. מ"ט: אמר עולא, ואיתימא רב שמואל בר אבא: גזרה חדשה היא ואין מפקפקין בה.</p> <p>מאי גזירתא? 1. אר"ש בן פזי אמר ריב"ל: משום ניקור. ולימא ליה: משום ניקור! כדעולא, דאמר עולא: כי גזרי גזירתא במערבא, לא מגלו טעמא עד תריסר ירחי שתא, דלמא איכא איניש דלא ס"ל ואתי לזולולי בה. מגדף בה ר' ירמיה, אלא מעתה, יבשה תשתרי, ישן תשתרי! דא"ר</p>

<p>What [then] is the reason for this ordinance?</p> <p>1. Said R. Simeon b. Pazi in the name of R. Joshua b. Levi: <u>[The probability of its] having been bitten [by a serpent].</u> Then why not tell him that the reason is the probability of its having been bitten? — Because of ‘Ulla’s ruling; for ‘Ulla said: <u>When an ordinance is made in Palestine, its reason is not revealed before a full year passes, lest there be some who might not agree with the reason and would treat the ordinance lightly.</u> This [The reason given in the name of R. Joshua b. Levy] was ridiculed by R. Jeremiah. If that be so [said he] then hard [cheese] should be permitted, and old [cheese], too, should be permitted for R. Hanina said: [When any matter becomes] dry, it is permitted, because the [serpent’s venom] would not let it get dry; [so also] when matured it is permitted, as it would not have allowed it to mature!</p> <p>2. Said R. Hanina: [The reason for forbidding cheese is] <u>because it is impossible for it not to have particles of milk.</u> [It is assumed that the milk out of which cheese is made is of clean animals, as milk of unclean ones does not curdle. There may however have been an admixture of milk of an unclean animal which would remain in the holes of the cheese.]</p> <p>3. Samuel said: <u>Because it is set in the skin of the rennet of a neveila.</u> [And though the rennet being mere ‘refuse’ is permitted, the skin is forbidden.] This implies that the rennet itself is permitted — how could Samuel have stated so? Have we not learnt, ‘The rennet of heathen’s animals or of a <i>neveila</i> is forbidden?’ [Hullin 116a] And when the question was asked, Is then any [slaughtered] animal of a heathen not a <i>neveila</i>? It was Samuel himself who answered: These are meant to be taken together thus: The rennet of an animal slaughtered by heathens, which is <i>neveila</i>, is forbidden! — There is no contradiction here. The former [represents R. Joshua’s opinion] before it was reversed; [The Mishnah in Hul. 116, stating that the rennet of a <i>neveila</i> is forbidden, represents the opinion of R. Joshua in our Mishnah before he retracted in deference to the objection raised by R. Ishmael.] the latter after it was reversed, and the Mishnah was allowed to remain as it was.</p> <p>4. R. Malkiah in the name of R. Adda b. Ahaba said: [Cheese is forbidden] <u>because its surface is smeared with fat of swine.</u></p> <p>5. R. Hisda said: <u>Because it is curdled with vinegar.</u></p>	<p>חנינא : יבש - מותר, אין מניחו ליבש, ישן - מותר, אין מניחו לישן!</p> <p>2. א"ר חנינא : לפי שא"א לה בלא צחצוחי חלב,</p> <p>3. ושמואל אמר : מפני שמעמידין אותה בעור קיבת נבילה. הא קיבה גופא שריא, ומי אמר שמואל הכי? והתנן : קיבת העובד כוכבים ושל נבילה - הרי זו אסורה ; והוינן בה, אטו דעובד כוכבים לאו נבלה היא? ואמר שמואל, חדא קתני : קיבת שחיטת עובד כוכבים נבלה אסורה! ל"ק : כאן קודם חזרה, כאן לאחר חזרה, ומשנה לא זזה ממקומה.</p> <p>4. רב מלכיא משמיה דרב אדא בר אהבה אמר : מפני שמחליקין פניה בשומן חזיר.</p> <p>5. רב חסדא אמר : מפני שמעמידין אותה בחומץ.</p> <p>6. רב נחמן בר יצחק אמר : מפני שמעמידין אותה בשרף הערלה. כמאן? כי האי תנא, (דתניא,) +מסורת הש"ס : [דתנן] + ר"א אומר : המעמיד בשרף הערלה - אסור, מפני שהוא פירי! אפי' תימא ר' יהושע, עד כאן לא פליג ר' יהושע עליה דר"א - אלא בקטפא דגוזא, אבל בקטפא דפירא מודי. והיינו דתנן, א"ר יהושע : שמעתי בפירוש, שהמעמיד בשרף העלין ובשרף העיקרין - מותר, בשרף הפגין - אסור, מפני שהוא פירי.</p> <p>בין לרב חסדא, בין לרב נחמן בר יצחק, תתסר בהנאה! קשיא.</p>
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<p>6. R. Nahman b. Isaac said: <u>Because it might be curdled with the sap of 'Orlah</u>. (fruits which cannot be eaten during the first three years the tree produces fruit)</p> <p>Whether the reason be the one given by R. Hisda, or by R. Nahman b. Isaac the prohibition ought surely to extend to the derivation of any benefit! [Since vinegar and 'Orlah are both so forbidden.] This indeed is a difficulty.</p>	
<p><b>8. Y. Shabbat 1:4 2a</b>  These are some of the laws which they stated in the upper room of Hananiah b. Hezekiah b. Gurion when they went up to visit him. They took a vote, and the House of Shammai outnumbered the House of Hillel. And eighteen rules did they decree on that very day. And that day was as harsh for Israel as the day on which the golden calf was made [T. Shab. 1:16]. R. Eliezer says, "On that day they overfilled seah measure [to overflowing]." R. Joshua says, "On that day they leveled the seah measure [compressing everything in it up to the top]." ["For so long as the measure is full and one puts more into it, in the end it will give up part of what (already) is in it."] [T. Shab. 1:17].</p> <p>It has been taught: Eighteen rules did they decree, in eighteen matters they formed the majority, and concerning eighteen matters they disputed. These are the matters on which they issued decrees: Bread prepared by gentiles, their cheese, their oil, and their daughters; their semen and urine; the laws governing one who has suffered a nocturnal emission; the laws covering the uncleanness of gentile territory. Their cheese: Said R. Jeremiah, "<u>Milk produced by a gentile's cow] why is it forbidden? Because — of the mixture [of milk from] an unclean beast [together with that produced by a clean beast, since the gentile need not scruple about such considerations].</u>"</p> <p>But so it has been taught in a Tannaitic tradition: An Israelite may sit at the other side of his corral, and a gentile may milk the cows and bring the milk to him, and he need not scruple [that is, the Israelite to drink it] [T. A.Z. 4:11P]. R. Ba in the name of R. Judah, R. Simon in the name of R. Joshua b. Levi: "As to milk produced by a gentile[s cow] — why is it prohibited? Because of its having been left exposed, [for gentiles are not punctilious about covering up liquids and preventing their contamination]." And [why not] let [the Israelite] curdle [the milk, and if there is snake venom, it will be skimmed off]? Said R. Samuel bar</p>	<p><b>8. ירושלמי שבת פרק א:ד דף ב טור א</b>  אילו מהלכות שאמרו בעלית חנניה בן חזקיה בן גרון כשעלו לבקרו כו' אותו היום היה קשה לישר' כיום שנעשה בו העגל רבי ליעזר אוי' בו ביום גדשו את הסאה</p> <p>תני שמונה עשר דבר גזרו ובשמונה עשרה רבו ובשמונה עשרה נחלקו ואילו הן שגזרו על פיתן של גוים ועל גבינתן ועל שמנן ועל בנותיהן ועל שכבי זרען ועל מימי רגליהן ועל הילכות בעל קרי ועל הילכות ארץ העמי'</p> <p>גבינתן – אמר רבי ירמיה חלב הגוי למה הוא אסור <u>משום תערובת בהמה טמאה</u> ותני כן עומד הוא ישראל בעדר והגוי חולב ומביא לו ואינו חושש רבי בא בשם רב יהודה רבי סימון בשם רבי יהושע בן לוי חלב הגוי למה הוא אסור משום גילוי ויעמיד אייר שמואל בר רב יצחק מפני אירס הנתון בין הנקבי' ותני כן שלשה אירסין הן אחד צף ואחד שוקע ואחד עשוי כשכבה ועומד מלמעלה ביומוי דרבי ירמיה איתגליין גיגיתא דסדרה רובא שתון קדמאי ולא מייתון אחראי ומייתון אני אומר אירס שוקע הוה פועליא הוה בטורא איתגליית קולת' דמיא שתון קדמאי ולא מייתון אחראי ומייתון אני אומר אירס שוקע הוה</p>

<p>R. Isaac, "[Still, this will have to be prohibited] because of the poison located in the cracks [of the cheese]."</p> <p>And so it is taught in a Tannaitic tradition: "There are three kinds of venom; one which floats, one which sinks, and one which [remains on the top of liquids] like a netlike film."</p> <p>In the time of R. Jeremiah the water tank of the great synagogue was left uncovered. They drank once and did not die, then went and did it again and died. Now I say that it was because of venom which had sunk to the bottom.</p> <p>Workers were farming in a field. A pitcher of water was left uncovered. They drank from it, but did not die. Then they went and drank again from the water, and they died. Now I say that it was because of venom which had sunk to the bottom [and which they did not drink the first time around.</p>	
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### III. Later Authorities

<p><b>9. Shulhan Aruch Y.D. 115:2</b></p> <p>The cheese of non-Jews is forbidden because they are emulsified in the skin of the udders of their slaughtered animals which are <i>neveila</i>. And even if it is emulsified with grass it is forbidden.</p> <p>Ramo: And this is the custom and one may not tear down the fence, if one is not in a place to act leniently from the earlier generations. And if a Jew sees the making of the cheese and the milking (of the cow), it is permitted, and this is the established custom in all of these lands. And if one sees the making of the cheese but not the milking, there is what to permit after the fact, for we do not suspect that perhaps an impure thing got mixed in after the cheese was made from the milk, because something which is impure does not emulsify at all, and certainly a non-Jew would not intentionally mix in anything once he has determined that he was going to make cheese, but in any case it is forbidden to eat this milk.</p>	<p><b>9. שולחן ערוך יורה דעה הלכות תערובות סימן קט"ו:ב</b>  גבינות העובדי כוכבים, אסרום מפני שמעמידים אותם בעור קיבת שחיתתם שהיא נבלה. ואפילו העמידוהו בעשבים, אסורה.</p> <p>הגה : וכן המנהג, ואין לפרוץ גדר (ב"י), אם לא במקום שנהגו בהם היתר מקדמונים. ואם הישראל רואה עשיית הגבינות והחליבה, מותר (אגור פ' שואל). וכן המנהג פשוט בכל מדינות אלו. ואם ראה עשיית הגבינות ולא ראה החליבה, יש להתיר בדיעבד, כי אין לחוש שמא עירב בו דבר טמא מאחר שעשה גבינות מן החלב, כי דבר טמא אינו עומד, ובודאי לא עירב בו העובד כוכבים מאחר שדעתו לעשות גבינות (הגהות אשר"י פא"מ ובארוך). ומכל מקום אסור לאכול החלב כך (שם).</p>
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**10. Cohen, Alfred S. "Chalav Yisrael." *Journal of Halacha and Contemporary Society* 5 (1983): 92-108.**

The question of Gvinat Yisrael (cheese) is not the same as that of Chalav Yisrael, due to the accepted halachic hypothesis that only milk of kosher animals will curdle and make cheese. Obviously, then, the law ought to be that all cheeses are permitted, with or without supervision, since the cheese itself is proof positive that the milk source must have been from a kosher animal. Nevertheless, in Avoda Zara 35a the Gemara forbids ingesting cheese made by a gentile. Why the Gemara should have made this statement is the subject of considerable discussion in the Talmud.

However, that is not the end of the discussion. Ramo writes that even if no Jew is present at the time of the milking, nonetheless as long as the cheese is produced under the supervision of a Jew, it may be used **בדיעבד**, although actually the milking should also be done in the presence of a Jew. The Schach explains that if it is known that the gentile is milking the cow for the purpose of making cheese, then it is permissible for the Jew to use it....

The polemic results in differing regulations halacha le'ma'aseh. For that reason, for example, the rabbinic authorities of the "German" community certify two types of kosher cheese—one which has kashruth supervision from the time the cow is milked, and one which is supervised only during the cheese-making process.

Cottage cheese, and similar types of cheese, are in a somewhat different category halachically. Rav Moshe Feinstein does not come to a definitive conclusion whether the talmudic regulation regarding cheese ought to apply to cottage cheese. His reasoning is that the gezeira was intended for a variety of cheeses, including those which are produced through the introduction of rennet (an animal enzyme) into the curds. However, he writes, the rennet used in cottage cheese does not actually cause the milk to become cheese, it only hastens the process. If so, then perhaps cottage cheese is not classified as a product subject to the talmudic decree.

An offshoot of the discussion about cheese is the controversy as to the intention of the Rabbis in describing "Jewish" cheese: must it be made by a Jew or only manufactured under Jewish supervision? In this regard, the Ramo is lenient, insisting only that the Jew see the milking and see the processing of the cheese, but the Schach strongly contests his leniency. Schach rules that the Jew has to participate in the actual manufacturing process. Pitchei Teshuva records many poskim who agree with Ramo.

Rav Moshe Feinstein (Igrot Moshe Y.D. 3:16) rules that we rely on Ramo for this, yet a "*baal nefesh*" may rightfully be strict in this respect and expend up to one/sixth more for the price of cheese which was manufactured wholly by Jews. However, he adds that if there is government inspection of the cheese-making process, there absolutely no basis even for a "*baal nefesh*" to be strict.

In making cheese, certain by-products result and there exists a halachic question whether they may be used or whether the same restrictions which apply to cheese would apply to them. Rav Moshe (Y.D. 3:17) permits the consumption of cookies and candy which have whey added to them, and the Chelkat Yaakov allows the addition of milk sugar not supervised by a Jew. However, Melamed LeHo'il permits the use of buttermilk only for a sick person. Of course, all these discussions are based on the assumption that there is absolutely no question that the by-product is kosher.