

DOWNLOAD PDF CAUSES OF VARIATION IN THE PERCENTAGE OF FAT IN HAND SEPARATOR CREAM

Chapter 1 : Causes of variation in the percentage of fat in hand separator cream [electronic resource] / - C

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It is a faster process. It is adopted as an industrial method of cream production. In this case it is very essential to fix the mechanized cream separator firmly to avoid vibration during the course of its operation. To run the separator the electrical connection is switched on. The separator is allowed to acquire the requisite speed. Generally the milk is preheated to 60°C before separation for optimum results. This makes the process easier and more efficient as the warm milk is less viscous than the cold milk. Milk is fed down as an inlet tube into the separator bowl where it rotates and moves up through a series of aligned holes in the disc stack. In-flow of milk, is regulated by adjusting the milk in-let valve to the separator. As the disk stack revolves the cream moves towards the center of the bowl and the skim milk is directed outwards by the centrifugal force. Thus milk is separated in two streams, a highly concentrated milk fat stream termed as cream and a nonfat stream of skim milk. Under normal conditions it produces skim milk and cream in the ratio of 1:1. It produces skim milk and viscous cream of high quality with less foam. But it may cause partial churning of milk during separation and has low capacity. It facilitates close skimming, and has high capacity but produces low viscosity in cream and also foam. It is a low capacity machine suitable for farm scale operation and is economical. It is high capacity machine suitable for dairy plants but are expensive. It has low capacity and so suitable for small dairy plants. But it produces foam during separation. As the name indicates it does not produce foam and performs three operations. It can clarify, separate and standardize the milk or cream. It can deliver cream or skim milk to respective tanks without any additional pumps, produces cream of high viscosity and of desired fat content without stopping the machine. Since it is airtight there is no contact of cream or skim milk with outside atmosphere and hence the quality is better. But it is expensive and regular maintenance is required. Domestic food processors or mixers are usually provided with a speed variation from 100 to 1500 rpm. However they lack a rigid foundation and sufficient mechanical strength of the driving unit. The attachment consists of raw milk, cream and skim milk pans of the matching size of the mixer. The lowest pan has built-in- power transmission assembly and is fixed with the mixer to give a fairly rigid base to the bowl. The bearings are so designed that they take care of the vibrations and overheating of the mixer. It has discs and operates at 1500 rpm. There are several factors, which influence the efficiency of cream separation process. Consequently the entire fat present in milk is not recovered during centrifugal separation. The percent of total fat recovered in cream from milk is referred to as skimming efficiency. Separation at lower temperatures results in higher fat loss in skim milk and may lead to partial clogging of the bowl due to the increased viscosity of cream. The fat loss in skim milk will be higher at lower speed of the bowl. This loss is ascribed to the insufficient centrifugal force generation. Hence, milk should not be fed in to the cream separators unless the cream separator attains its full speed. The flow of milk to the cream separator should be at optimum level. If the flow is at higher rate it will result in greater loss of fat in skim milk. Smaller the size of fat globules in milk higher will be the fat content in skim milk. Due to this reason, it is observed that generally cow milk and goat milk have lower separation efficiency in comparison to buffalo milk. Greater the amount of air in milk higher will be the fat loss in skim milk. The entrapped air reduces the efficiency of hermetically sealed separators more than that of the normal cream separators. Higher acidity of milk reduces the efficiency of separators. This is mainly due to the partial coagulation of milk, which in turn, increases the sludge formation in the bowl affecting the efficiency of separation. Higher temperature of milk and more agitation cause higher losses of fat in skim milk. As high fat in cream causes more losses the cream screw should be appropriately adjusted. Factors Influencing Fat Percentage of Cream The following factors influence the fat percentage in cream a Position of cream or skim milk screw: Thus it comes nearer to or moves away from the center of rotation. Adjusting the cream screw towards IN position or Skim milk screw towards OUT position yields high fat percentage in cream or

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vice-versa. Milk containing high fat yields rich cream. The higher and recommended speed of the bowl yields cream of higher fat content. Faster rate of inflow of milk to the separator produces cream with lower fat percentage. Lower temperature of milk during separation yields cream with higher fat percentage. If the amount of water used to flush the bowl is more the fat percentage in cream will be low.

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Chapter 2 : Clotted cream - Wikipedia

Causes of variation in the percentage of fat in hand separator cream [electronic resource] / By b. George H. (George Hamilton) Barr and Canada.

To whiten coffee and tea. Used in sauces and soups and as a pourable or whipped garnish. Whipping will only attain soft peaks. Some products labeled "whipping cream" contain small amounts of gelatin as an added stabilizer for improved whipping. Also used as a luxurious pourable garnish on fresh fruit and hot cereals. Not generally available at retail until recently. Most cream products sold in the United States at retail contain the minimum permissible fat content for their product type, e. Thickeners include sodium alginate , carrageenan , gelatine , sodium bicarbonate , tetrasodium pyrophosphate , and alginic acid. For example, cream has a tendency to produce oily globules called "feathering" when added to coffee. The stability of the cream may be increased by increasing the non-fat solids content, which can be done by partial demineralisation and addition of sodium caseinate , although this is expensive. Butter is made by churning cream to separate the butterfat and buttermilk. This can be done by hand or by machine. Nitrous oxide , from whipped-cream chargers may also be used to make whipped cream. Sour cream , common in many countries including the U. This is similar to Indian malai. Reduced cream is a cream product used in New Zealand to make Kiwi dip. Other items called "cream"[edit] Some non-edible substances are called creams due to their consistency: Regulations in many jurisdictions restrict the use of the word cream for foods. Words such as creme, kreme, creame, or whipped topping e. In some cases foods can be described as cream although they do not contain predominantly milk fats; for example in Britain " ice cream " does not have to be a dairy product although it must be labelled "contains non-milk fat" , and salad cream is the customary name for a condiment that has been produced since the s.

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Chapter 3 : Novo Cream Separators for Small Farms - Goat Milk Info

Since practically all the fat in milk is contained in the cream, the cream from the separation of high-fat milk has a higher fat content than that from low-fat milk; a greater fat content in cream, the amount of which remains unaltered in the two cases, will obviously show a higher fat percentage in it, and vice versa.

Introduction Milk is used widely in the coffee world, not in the least for its well-known ability to create stable foams for coffee drinks. Several components of milk play an important role in creating stable foams. These same ingredients facilitate the creation of other popular dairy products, such as cheese, yogurt, ice cream and dairy drinks. For creating stable milk foams of desirable texture and stability, milk fat and milk proteins are of crucial importance. Milk proteins stabilize the air bubbles in milk foams. To complicate matters, milk fat destabilizes foams, but is desired for flavor. Creating stable milk foams is thus an intricate interplay between balancing the desirable foaming properties of milk proteins with the destabilizing milk fat. This natural milk-fat-globule membrane protects the milk fat against oxidation or degradation by enzymes that can create off-flavors in milk. Milk contains two classes of proteins, the caseins and whey proteins, which are found on the surface of the fat globules in homogenized milk. These casein micelles contain tens of thousands of casein molecules, as well as calcium phosphate and water. However, extensive aggregation of whey proteins can occur when milk is heated; such effects are limited by commercial pasteurization e. Homogenization Milk is often homogenized to reduce the tendency of milk fat globules to cream form a cream layer on top during storage. Creaming occurs because of the lower density of milk fat. By reducing the size of fat globules, homogenization slows down the creaming process. During homogenization, milk is typically passed through a small valve at high pressure, as a result of which the fat globules are disrupted. As a result, the total surface area of the fat globules increases, and milk proteins are absorbed by the surface of the fat globules. The proteins attach to the surface of the air bubbles and stabilize them. Normal milk contains more than enough protein to stabilize the air bubbles in a milk foam. Of the milk proteins, caseins are found to preferentially attach to air bubble interfaces. The milk proteins form a stable surface layer, resulting in stable foam. However, foam stability eventually decreases, which is due to liquid draining from the foam, as a result of which air bubbles come in close contact with each other and merge. This leads to larger and larger air bubbles, which eventually collapse. In many cases, this is related to milk fat. Skim milk is ideal for preparing foams from a physics perspective, but skim milk foams lack flavor and mouth feel, thus necessitating the inclusion of some fat. However, increasing fat content leads to a considerable reduction in the ability of milk to foam, as well as in foam stability. At this temperature range, milk fat globules are destabilized during foam formation, leading to the leakage of liquid fat from the globules, which destabilizes foams. Influence of milk quality on foaming of milk A further aspect related to milk fat to be considered is that of the enzymatic degradation of milk fat by the enzyme lipase, i. This results in the formation of surface-active mono- and diglycerides that partially replace milk proteins on the surface of the air bubbles. As a result, the air bubbles become unstable. Lipolysis can also create a rancid taste. Therefore, preventing lipolysis is of utmost importance. This responsibility involves all aspects of the dairy supply chain, starting with raw milk quality, where damage to fat globules can enable lipase activity. Milk lipase is easily inactivated by normal pasteurization. However, lipases may also be produced by bacteria and these, unlike the bacteria themselves, can be extremely heat-stable and in some cases, survive UHT processing and sterilization. Hence, contamination of milk should be avoided at all costs, as the issue of lipolysis may only be partly rectified through heat treatment. Influence of heat treatment on milk While heat treatment has little effect on the foamability and foam stability of milk, it should be considered in terms of product quality and safety, and also from a flavor perspective. Pasteurized, sterilized, and UHT-treated milk all have distinct flavor characteristics, which may be preferred or not in various markets around the world. Conclusions As outlined above, it is clear that the selection and production of milk for the creation of milk foams can be an intricate process, requiring

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careful consideration of certain trade-offs. These include milk quality and stability on the one hand, and foamability and foam stability on the other. However, consumer acceptance relies on texture, flavor and mouth feel, and should be paramount in any consideration of milk in coffee applications. His research focusses on the physical chemistry of dairy products, with particular emphasis on the protein functionality and product-process interactions. In addition, he is an adjunct professor in dairy science and technology at South Dakota State University and is an editor of the International Dairy Journal.

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Chapter 4 : Female Belly Fat: Stress, Menopause & Other Causes - Metabolic Effect Metabolic Effect

Variations in the Test of Separator Cream. is that of the cause of variation in the test of cream. per cent of fat until the cream separator begins to clog.

Rucava white butter Rucavas baltais sviests , from Latvia [15] History Traditional butter-making in Palestine. Ancient techniques were still practiced in the early 20th century. National Geographic , March The skin is then hung with ropes on a tripod of sticks, and rocked until the movement leads to the formation of butter. In the Mediterranean climate , unclarified butter spoils quickly” unlike cheese , it is not a practical method of preserving the nutrients of milk. The ancient Greeks and Romans seemed to have considered butter a food fit more for the northern barbarians. A play by the Greek comic poet Anaxandrides refers to Thracians as boutyrophagoi, "butter-eaters". Ghee is mentioned in the Periplus of the Erythraean Sea as a typical trade article around the first century CE Arabian Sea , and Roman geographer Strabo describes it as a commodity of Arabia and Sudan. Scandinavia has the oldest tradition in Europe of butter export trade, dating at least to the 12th century. Butter slowly became more accepted by the upper class, notably when the early 16th century Roman Catholic Church allowed its consumption during Lent. Bread and butter became common fare among the middle class , and the English, in particular, gained a reputation for their liberal use of melted butter as a sauce with meat and vegetables. Such " bog butter " would develop a strong flavor as it aged, but remain edible, in large part because of the unique cool, airless, antiseptic and acidic environment of a peat bog. Firkins of such buried butter are a common archaeological find in Ireland; the National Museum of Ireland “ Archaeology has some containing "a grayish cheese-like substance, partially hardened, not much like butter, and quite free from putrefaction. A French chemist claimed the prize with the invention of margarine in The first margarine was beef tallow flavored with milk and worked like butter; vegetable margarine followed after the development of hydrogenated oils around Until the 19th century, the vast majority of butter was made by hand, on farms. The first butter factories appeared in the United States in the early s, after the successful introduction of cheese factories a decade earlier. In the late s, the centrifugal cream separator was introduced, marketed most successfully by Swedish engineer Carl Gustaf Patrik de Laval. Initially, whole milk was shipped to the butter factories, and the cream separation took place there. Soon, though, cream-separation technology became small and inexpensive enough to introduce an additional efficiency: By , more than half the butter produced in the United States was factory made; Europe followed suit shortly after. In , Otto Hunziker authored The Butter Industry, Prepared for Factory, School and Laboratory, [23] a well-known text in the industry that enjoyed at least three editions , , As part of the efforts of the American Dairy Science Association , Professor Hunziker and others published articles regarding: Butter also provided extra income to farm families. They used wood presses with carved decoration to press butter into pucks or small bricks to sell at nearby markets or general stores. The decoration identified the farm that produced the butter. This practice continued until production was mechanized and butter was produced in less decorative stick form. Per capita butter consumption declined in most western nations during the 20th century, in large part because of the rising popularity of margarine , which is less expensive and, until recent years, was perceived as being healthier. In the United States, margarine consumption overtook butter during the s, [31] and it is still the case today that more margarine than butter is eaten in the U. This practice is believed to have originated in , when Swift and Company began packaging butter in this manner for mass distribution. The dominant shape east of the Rocky Mountains is the Elgin, or Eastern-pack shape, named for a dairy in Elgin, Illinois. The printing on unsalted "sweet" butter wrappers is typically red, while that for salted butter is typically blue. The wrapper is usually a foil and waxed-paper laminate. Butter for commercial and industrial use is packaged in plastic buckets, tubs, or drums, in quantities and units suited to the local market. Worldwide Butter market, Lhasa , Tibet. New Zealand, Australia , and the Ukraine are among the few nations that export a significant percentage of the butter they produce. Smen is a spiced Moroccan clarified butter, buried in the ground and aged for

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months or years. A similar product is maltash of the Hunza Valley , where cow and yak butter can be buried for decades, and is used at events such as weddings. It consists of tea served with intensely flavored or "rancid" yak butter and salt. In African and Asian developing nations , butter is traditionally made from sour milk rather than cream. It can take several hours of churning to produce workable butter grains from fermented milk. The "butter compartment" found in many refrigerators may be one of the warmer sections inside, but it still leaves butter quite hard. Until recently, many refrigerators sold in New Zealand featured a "butter conditioner", a compartment kept warmer than the rest of the refrigerator but still cooler than room temperature with a small heater. Wrapped butter has a shelf life of several months at refrigerator temperatures. Usually the dish holds just enough water to submerge the interior lip when the dish is closed. Butter is packed into the lid. The water acts as a seal to keep the butter fresh, and also keeps the butter from overheating in hot temperatures. This method lets butter sit on a countertop for several days without spoiling. Once butter is softened, spices , herbs , or other flavoring agents can be mixed into it, producing what is called a compound butter or composite butter sometimes also called composed butter. Compound butters can be used as spreads, or cooled, sliced, and placed onto hot food to melt into a sauce. Sweetened compound butters can be served with desserts ; such hard sauces are often flavored with spirits. When heated, butter quickly melts into a thin liquid. Melted butter plays an important role in the preparation of sauces , most obviously in French cuisine. Beurre noisette hazelnut butter and Beurre noir black butter are sauces of melted butter cooked until the milk solids and sugars have turned golden or dark brown; they are often finished with an addition of vinegar or lemon juice. Butter is shaped into a lamb either by hand or in a lamb-shaped mould. Butter is also used to make edible decorations to garnish other dishes. Mixing melted butter with chocolate to make a brownie. Butter fills several roles in baking , where it is used in a similar manner as other solid fats like lard , suet , or shortening , but has a flavor that may better complement sweet baked goods. Many cookie doughs and some cake batters are leavened , at least in part, by creaming butter and sugar together, which introduces air bubbles into the butter. The tiny bubbles locked within the butter expand in the heat of baking and aerate the cookie or cake. Some cookies like shortbread may have no other source of moisture but the water in the butter. Pastries like pie dough incorporate pieces of solid fat into the dough, which become flat layers of fat when the dough is rolled out. During baking, the fat melts away, leaving a flaky texture. Butter, because of its flavor, is a common choice for the fat in such a dough, but it can be more difficult to work with than shortening because of its low melting point. Pastry makers often chill all their ingredients and utensils while working with a butter dough. Nutritional information As butter is essentially just the milk fat, it contains only traces of lactose , so moderate consumption of butter is not a problem for lactose intolerant people. Comparative properties of common cooking fats per g Type of fat.

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Chapter 5 : Milk Foam: Creating Texture and Stability - Specialty Coffee Association News

Similar Items. Buttermaking on the farm By: Barr, George H. (George Hamilton), b. Published: () Causes of variation in the percentage of fat in hand separator cream.

Share on Facebook Poor diet and lack of exercise can lead to weight gain in the form of visceral fat, which is especially a danger as you age because it increases your health risks. Fat that is located just under your skin is subcutaneous, and fat that is deeply embedded in your abdominal region is visceral. Talk to your doctor to see if your health is at risk because of excess abdominal fat. Visceral Fat You cannot grasp visceral fat with your hand. It is out of reach and inside your body. It lies deeply inside your abdomen, filling the spaces between your organs. Visceral fat wraps around organs such as your liver and spleen. This kind of fat can interrupt the regular function of your organs and produce harmful substances. Though visceral fat is especially prominent in people in their mids and older, people of any age can suffer from its negative effects. Subcutaneous Fat Subcutaneous fat is the kind you can grasp with your hand on any part of your body, including around your middle. The added weight caused by overeating and lack of physical activity can stress your joints and increase your risk of heart disease. Gender Differences Though both kinds of fat are caused by excessive caloric intake and lack of activity, women are more prone to gaining extra fat, especially at menopause. Menopausal women tend to accumulate fat around the waist and near the heart more than men. In women, visceral fat has been linked to gallbladder problems and breast cancer. In men, deeper layers of subcutaneous fat can be related to insulin resistance, which can lead to Type 2 diabetes. Dangers Visceral fat is associated with heart disease, metabolic disturbances and sleep apnea. Insulin resistance and glucose intolerance, which can lead to Type 2 diabetes, are also associated with visceral fat. Prevention You can decrease the amounts of visceral and subcutaneous fat in the same way. To reduce your risk, eat a healthy diet rich in fruits and vegetables and with moderate portions. Exercise daily, getting at least minutes of moderate exercise or 75 minutes of strenuous aerobic exercise per week. Vigorous aerobics are those that increase your breathing and heart rate such that it is difficult to speak without stopping to catch your breath. Strength training also increases your resting metabolism. Muscle burns energy efficiently, so build your strength to help get rid of fat.

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Chapter 6 : What Causes Visceral Fat Vs. Subcutaneous Fat? | Healthy Living

Cream on the basis of fat content has been categorized into following categories: (i) Low fat cream- The cream in this group contains fat in the range of %,e.g., table cream, light cream, whipping cream, etc.

Although international interest in classifying subject health status according to adiposity is increasing, no accepted published ranges of percentage body fat currently exist. Empirically identified limits, population percentiles, and z scores have all been suggested as means of setting percentage body fat guidelines, although each has major limitations. The aim of this study was to examine a potential new approach for developing percentage body fat ranges. Body fat was measured in subjects from 3 ethnic groups white, African American, and Asian who were screened and evaluated at 3 universities [Cambridge United Kingdom, Columbia United States, and Jikei Japan] with use of reference body-composition methods [4-compartment model 4C at 2 laboratories and dual-energy X-ray absorptiometry DXA at all 3 laboratories]. Percentage body fat prediction equations were developed based on BMI and other independent variables. This proposed approach and initial findings provide the groundwork and stimulus for establishing international healthy body fat ranges. A lower healthy BMI limit of These body weight guidelines are useful for practitioners when screening patients for excessive adiposity and when prescribing treatment for overweight patients. The main assumption of BMI guidelines is that body mass, adjusted for stature squared, is closely associated with body fatness and consequent morbidity and mortality 3, 4. However, some individuals who are overweight are not overfat eg, bodybuilders. Others have BMIs within the normal range and yet have a high percentage of their body weight as fat. Although these misclassified persons are uncommon relative to the population as a whole 1, the question arises as to how they might be evaluated correctly according to body fatness. Moreover, screening and retention of military recruits 5, 6, policemen, firemen 7, and other workers in whom high fitness levels are required are often based on BMI standards and in some cases on a second-tier body fat evaluation 5. Unfortunately, there is no consensus on how body fat is linked with morbidity and mortality because of the absence of appropriate prospective studies. Specifically, no accepted published body fat ranges exist; those reported based on empirically set limits, population percentiles, and z scores have serious limitations. Additionally, methods of limited accuracy such as anthropometry are typically used to estimate fatness in population surveys 8. The aim of the present study was to examine an approach for developing percentage body fat ranges that correspond to published BMI guidelines. Sex-specific formulas were first developed for estimating relative body fatness from BMI and other potential independent variables such as age and ethnicity. After passing the screening evaluation, subjects completed dual-energy X-ray absorptiometry DXA, labeled water dilution, and underwater weighing studies on the same day. Subjects were screened through a medical history questionnaire, physical examination, and measurement of routine blood chemistry indexes. Healthy subjects were enrolled in the study and completed up to 5 evaluations: The measured bone mineral mass, total body water, and body volume values were then used to calculate total body fat by using a 4-compartment model 4C 9. The study was performed in accord with the Helsinki Declaration of as revised in Body fat was measured by DXA at all 3 centers and, additionally, tritium or deuterium dilution volume, bone mineral mass, and body density were measured at the UK and US sites. Body composition DXA scanners were used to measure body composition [Japan: DPX-L with software version 1. DPX with software version 3. Body density and volume were measured by underwater weighing in water tanks according to standard methods with a technical error of 0. Residual lung volume was estimated after immersion of subjects in a sitting position by means of the closed-circuit oxygen dilution method in the United States 16 and at the time of immersion by helium dilution in the United Kingdom 9, The 4C method is generally accepted as a reference method for measuring body fat 17, Body fat estimates by DXA, a second reference method 17, 18, were also available from all 3 sites. Specifically, the DXA-4C conversion was carried out by using simple regression analysis with 4C percentage body fat as the dependent variable and DXA percentage body fat as the

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independent variable with use of data collected at the US site. We were therefore able to create, for exploratory purposes, 2 complete sets of operational percentage body fat formulas based on BMI and other potential independent variables: Potential interaction terms were explored in model development and a forward-backward stepwise selection procedure was applied for the derivation of prediction equation models. All analyses were carried out with the statistical software program SPSS version 8. The total subject pool consisted of subjects, women and men. The subject pool included African Americans, Asians, and whites.

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Chapter 7 : Catalog Record: The care of cream for buttermaking | Hathi Trust Digital Library

In the United States "heavy whipping cream" is defined by the FDA as "cream which contains not less than 36 percent milk fat." The rest is mostly water, along with a few proteins, minerals, and milk sugars.

Cellulite Causes and Cures Q: Is there anything I can do to get rid of this awful-looking "cottage cheese"? First of all, congratulations on getting ever closer to your "bikini body. Cellulite is often referred to as "cottage cheese" or "orange peel" mainly due to its appearance, which looks like dimples or ripples just under the skin. Often "dimples" are thought of as being cute. Predominantly women are affected by cellulite, although a small percentage of men are too. Even "picture-perfect" women you see in movies and magazines suffer from this unsightly "cottage cheese" effect, as you may have seen from popular lifestyle and gossip magazines like to take pleasure in displaying particularly unflattering photos of stars that are caught unaware. There are basically three types of cellulite. Hard cellulite often occurs in the bodies of dancers, runners, or athletes, and this is harder to get rid of as it attaches directly to the muscle tissue. However, this cellulite is often not as visible as soft cellulite. This is normally found in the leg area of women. The Cause of Cellulite? Cellulite is a kind of fat tissue just below the surface of the skin. This layer of skin contains bands of connecting tissue that have many fat cells and is surrounded by a liquid that nourishes it and provides an effective waste system. The waste products should be removed, however, because when toxins are trapped in the skin, this connective tissue thickens and gives the dimpling effect of cellulite. This layer also thickens as we age, which can produce the rippling effect of cellulite too. There is a difference between cellulite and fat, though, in that fat insulates the body and cushions the organs, nerves, and muscles while supplying your muscles with useable energy. Cellulite, on the other hand, provides no padding and only occurs in certain areas on the body, such as the thighs, buttocks, abdomen, and breasts. Cellulite is not necessarily a factor of bodyweight. Though diet and lifestyle affect cellulite formation, a large part of cellulite is comprised of toxins and fat that build up in the body and can affect women of any size, weight, and body structure. This in combination with the micro tendons attaching your skin to your body produces the dimpling effect. Below are the most common: Does your mother or grandmother suffer from this condition? Poor eating habits including the excess consumption of alcohol, caffeine, and spicy foods can contribute to the formation of cellulite because the toxins they produce get trapped in the fatty tissue. By lowering your body fat, you stand a chance of having less-pronounced cellulite. Water helps flush excess toxins from the body. Smoking can weaken the skin due to the constriction of capillaries and damage the connective tissue that causes the dimpling effect of cellulite. Stress can cause muscles to seize up with tension while also causing the connective tissue that covers that muscle to seize up. Tension also blocks the tissue, preventing proper waste elimination and purification. But can you get rid of it? Besides the act of liposuction practiced by a licensed and experienced medical doctor, the only surefire way of reducing the appearance of cellulite is through consistent exercise, a healthy diet, supplementation and plenty of water to flush out the toxins. Many women want to reduce body fat but also firm up their problem areas—becoming leaner and firmer—weight-training will defiantly help to re-shape your body by adding nice, lean, toned muscle tissue to the places you want to firm up. A program that targets the lower body may be ideal for you. For instance, you could do lower body strength training twice per week but incorporate different exercises on both days. Great exercises for glutes and thighs include: Hamstring curls on a machine or with a Swiss Ball Step-ups onto a flat exercise bench Lunges—you can do a variety of lunges, such as walking lunges, stationary lunges, and split squats Squats barbell or on a Smith Machine Stiff-legged deadlifts with dumbbells Hyperextensions Aim for 12 to 15 reps on each exercise, and do three different exercises on each of your lower body days. This will cause your body to hold onto the fat and may even worsen the appearance of the cellulite. Aim for a healthy, low-fat lifestyle that incorporates plenty of protein, complex carbohydrates, and some essential fats. And be sure to limit "saturated" fats. Do the creams, potions, and treatments work for reducing cellulite? Many salons offer treatment with electrical muscle

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stimulation, vibrating machines, inflatable hip-high pressurized boots, "hormone" or "enzyme" injections, heating pads, and massage. In fact, though, these are merely temporary solutions at best that work by plumping up the skin, giving it a sleeker appearance. Endermologie treatments can be carried out at most day spas. This is the first FDA-approved non-surgical cellulite treatment. This French machine kneads and massages the skin to release cellulite-forming toxins and increase circulation. Body wraps are another popular treatment in day spas. These treatments claim to be able to reduce inches off the waist, hips, thighs, and other areas of the body. Losing the fat can only be done through a combination of diet and exercise. Herbal supplements available in health-food stores. We believe you should focus on mobilizing and processing as much fat as possible with fat-loss supplements. Adding this supplement combination to your exercise and nutrition program is a great way to boost your metabolism and the amount of fat you are actually burning. Drink plenty of water to flush toxins out of your body Follow a strength training program, concentrating on lower body movements, such as squats, step-ups, and lunges Apply a self-tanner—this instantly brightens the skin and reduces the appearance of cellulite. Eat a clean diet high in fruits, vegetables and lean proteins, with moderate carbohydrate intake.

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Chapter 8 : Your Body Fat Percentage: How It's Measured And Why It's Useful

Butter fat testing using Gerber method is one of the many quality assurance test procedures carried out in milk. It is a simpler modification of the Babcock method with special butyrometers for various dairy products.

Separation of Milk We have studied that milk contains fat and non-fat constituents, also called solids-not-fat SNF. Fat is present as globules whereas the SNF form an ionic solution. Thus, milk represents an emulsion in which the relatively large fat globules are dispersed in the continuous aqueous phase serum. Cream is that portion of milk, which is rich in milk fat, but poorer in SNF. This suggests that much of the fat can be easily separated in the form of cream from milk, leaving behind the skim milk containing very little fat. Cream separation enables the processor to manufacture a variety of fat-rich dairy products such as cream of various types, butter, ghee, etc. Cream separation also makes it possible to adjust the composition of milk with respect to its fat and SNF contents. Such compositional modification *vide Sec* may be desired for products manufacture as also for meeting the legal requirements of different types of fluid milk. Methods of Separation Two methods of separation of cream from milk are commonly used: Both these methods rely on the basic principle of separation of two immiscible liquids having different densities, under the influence of gravitational or centrifugal force. The upward movement of the lighter fat globules depends on the density difference, $\Delta\rho$. Creaming may become evident in as short time as half an hour. The rate of cream separation is directly proportional to the difference between the densities of fat and serum and to the square of fat globule diameter, and inversely proportional to the viscosity of serum. Thus, for a given sample of milk, the creaming rate will be maximum when the density difference is maximum and viscosity is minimum. Both these factors are, in turn, affected by temperature of milk. As the temperature rises, the ratio of the density difference and the serum viscosity increases favouring the separation process. This increase is particularly prominent between 10°C and 30°C and much less above 50°C. Cream separation by gravity is, however, a very slow and inefficient process. It is of little practical value for commercial purposes. Hence, mechanized cream separation employing a centrifugal machine is most commonly used in the dairy industry. Even for a very small scale separation involving, say litres of milk, a centrifugal separator is used, be it hand-driven or motor-driven. In principle, this method of cream separation is similar to gravity separation but gravity as the driving force is replaced by the centrifugal force for which a rotational machine is used. Since the latter force is much larger than the gravitational force, separation is greatly accelerated. The centrifugal separator is similar to the clarifier discussed in the earlier section, but milk entering through the bottom of the separator bowl holding a stack of conical discs rises up through holes located somewhere in the middle of the inner and outer edges of the discs. The milk between discs is subjected to a centrifugal force in the rotating bowl and thereby tends to fly out from the centre. The skim milk fraction, being heavier, moves away and forms a layer on the outer edge of the discs, whereas the fat globules gather on the inside edge. The incoming un-separated milk forces the separating layers further and upward out at the top of the bowl. Thus, there are two outlets in a cream separator, one for skim milk and the other for cream, the cream outlet being nearer to the centre. The rate of cream separation in case of a centrifugal separator is influenced by the same factors affecting gravity separation, but the speed of the separator bowl and the disc diameter are also very important here. The higher the speed of the bowl or larger the diameter of discs, the greater will be the separation rate. Factors affecting Skimming Efficiency Since fat removal from milk is the principal function of a cream separator, the efficiency of the process, also called skimming efficiency, is determined by the effectiveness with which the fat content of the out-coming skim milk is reduced. The residual fat content of skim milk is usually in the range of 0.1%. A fat content higher than 0.1%. The skim milk fat content is inversely related to fat recovery in the cream. Hence, the skimming efficiency is often defined as the percentage of total fat in whole milk recovered in the cream separated from it. For a given fat content of whole milk, the higher the fat content of skim milk, the lower the skimming efficiency. The factors that affect the skimming efficiency are related to either the milk being separated or the separator.

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Intense agitation of milk prior to separation, air incorporation or foaming and high acidity of milk adversely affect the separation efficiency. Further, if the proportion of smaller fat globules especially below 2 mm in diameter is greater, the skimming efficiency will go down. It should, therefore, be obvious that homogenized milk with its very small globules please see Unit 3 cannot be separated. Gravity or centrifugal separation of fat globules from skim milk is faster at a higher temperature. Thus skimming efficiency increases with increasing temperature of milk up to about 80°C, beyond which increasing viscosity of milk tends to make the separation process less efficient. However, feeding rates below the normal separator capacity does not enhance the skimming performance, but it may lead to undesirable air incorporation. A higher bowl speed gives higher skimming efficiency but, since increased speed requires greater energy input, normal range of rpm sometimes as low as about rpm giving efficient separation is normally not exceeded in the separator design. Poor disc condition e. Excessive slime getting collected in the sludge space of the bowl would also have an adverse impact on the separator performance. Factors affecting Yield and Fat Content of Cream The yield of cream and skim milk can be given by the following formulae: All those factors which affect the skimming efficiency can be expected to influence the cream yield too. Conditions leading to a higher skimming efficiency would give a better yield. However, the fat content of cream is obviously the major factor influencing the yield of cream. Accordingly, the adjustment of the cream screw or skim-milk screw is critical with regard to cream yield. The position of the cream screw i. Similarly, manipulation of the skim milk screw so as to decrease the flow rate of the exiting skim milk will decrease the fat concentration of cream, and vice-versa. Thus, changing the position of the cream screw or skim-milk screw alters the ratio of cream to skim milk; an increased ratio decreases the fat content of cream and a decreased one raises it. Further, a lower separation temperature and a higher fat content of milk lead to an increased fat content of cream, whereas an increased feed rate causes a decreased richness of cream, and vice-versa.

Chapter 9 : Cream - Wikipedia

The cream can be churned (agitated) for some time for the fat globules to coalesce in bigger chunk; they can be strained to make butter. The skim milk thus produced will have some fat and the quantity will vary with the efficiency of the separator and your force of operation.