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SALAD DRESSING AND METHOD OF PREPARING THE SAME

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The present invention relates to dressings and sauces for various foods and it particularly relates to dressings for salads.

The usual salad dressings generally consisting in part or whole of mayonnaise or mayonnaise ingredients and including substantial proportions of oils or oily materials are quite expensive because of the relatively high price of the salad oil or other oily materials included therein, in amounts varying from up to 50% and more.

Moreover they must be expensively packaged in glass jars or similar containers, because the oily constituents would stain or seep through or spot paper cups or other paper, fibre, or similar containers, even if such containers were treated as for example with paraffin, and furthermore would tend to break down said coatings and eliminate their moisture protection qualities.

It is therefore among the objects of the present invention to provide an improved food composition of the character above described, and particularly improved salad dressings or similar dressings, which may be readily inexpensively compounded of readily available, inexpensive edible and wholesome food elements and which, at the same time, will not be excessively expensive because of inclusion of expensive salad oil therein.

Another object is to provide improved salad dressings of the character above described which may be readily packaged in paper, fibre, or similar cups or containers even though such cups or containers are not specially treated to be grease resistant without said oil staining or seeping through the material of the cup or liner and without said oil breaking down moisture resistant coatings on said containers.

Still further objects and advantages will appear in the more detailed description set forth below, it being understood however that this more detailed description is given by way of illustration and explanation only and not by way of limitation, since various changes therein may be made by those skilled in the art without departing from the scope and spirit of the present invention.

In accomplishing the above objects it has been found most suitable according to one embodiment of the present invention to provide a salad dressing having the usual flavoring constituents therein, such as vinegar, spice, salt, pepper and so forth, the body or base, however, of which is formed primarily from a water thickener, or from a water absorbent or water miscible colloid which will have the effect of absorbing or taking up or forming a pasty mass with water or aqueous materials.

The preferred material of this character is a starchy material and many different starches may be employed, whether derived from potato, corn, tapioca, and so forth. Also gums may be used such as karaya, tragacanth, etc., or other materials such as pectin, etc.

Of the water absorbent colloids or water absorbent bodier or thickening materials that may be utilized, corn starch, for example, has been found to be one of the most suitable, particularly when used in proportions of between 5 to 15%.

With the use of starch, for example, as the bodier or thickening agent in the salad dressing or similar food composition, and where the oil is substantially absent, a particular difficulty often arises due to the gummy or starchy taste of the dressing and also because of the tendency for the dressing to stick to the tongue or to the roof of the mouth or to the teeth upon mastication of the food or salads prepared with such dressing, and it is therefore among the further objects of the present invention to provide a salad dressing or similar food composition of the character above described in which will be substantially lessened the gummy, starchy, gelatinous or pasty taste characteristics of high starch or high gum content foodstuffs and which will also be capable of mastication with materially less sticking to the roof of the mouth or to the tongue or to the teeth of the person masticating the same.

In accomplishing the last mentioned object, it has been found particularly suitable to incorporate air or some other suitable gas, such as nitrogen or carbon dioxide, into the dressing and it has further been found that such air or other gas may be most advantageously incorporated into the dressing and may be more or less permanently fixed therein, so as to generally withstand the normal handling, shipping and storing thereof.

In obtaining these aerated materials, it has been found advantageous to introduce air integrators or airifiers. These materials assist in the ingestion of air during the whipping or beating operation. Several of these air integrators or airifiers are, for example, albumens, milk powder, gelatin, and similar animal, vegetable or mineral substances capable of being whipped with air in the presence of aqueous materials so as to produce a fluff or similar aerated condition.

It is also desirable to include substances which will stabilize the resultant aerated mixture. Among aeration stabilizers, which tend to increase the ability of the composition to retain the air whipped therein, are protein materials of animal or vegetable origin such as casein, albumen, gelatin or gums, lecithin, various waxes or resins and so forth.

These aeration stabilizers may be used in dif-

ferent proportions depending upon the degree of stabilization required, the type of aeration agent used, the characteristics of the product to be aerated and similar other considerations but in general the proportions have been found to range between ¼ of 1% and 20%, and generally the preferred proportions have been found to range between 6% and 12%, although the greater the aeration the more devoid the product will be of its gummy or pasty characteristics.

With reference to specific aeration agents the following table will give the proportions generally preferred:

	Per cent
Powdered egg albumen	over ½
Powdered gelatin	over 5
Liquid egg yolk	over 7
Powdered skim milk	over 7
Liquid egg albumen	over 4

Air integrators, airifiers or aeration stabilizers are all hereinabove and hereinafter included by the expression aeration agent.

The process for aeration may consist of beating or whipping in any of the standard mixing or beating machines or it may consist of processing in other aerating equipment, and if desired, air may be blown into the product during the heating or other operations.

Generally in the preferred composition starch and water, or other aqueous materials such as vinegar are incorporated and cooked to form a pastry mass of usual consistency required for ordinary salad dressing. There is then added sufficient airifier materials to enable increase in volume upon whipping to form a stabilized aerated product, which increase in volume may vary up to 300%, or more, although generally this increase in volume ranges between 10% and 100%, but for the most preferred embodiment these ranges should usually vary between 20% and 60% and usually over 30%.

With the inclusion of air it has been found that the objectionable starchy taste of the composition has been materially lessened and that the dressing, although made of relatively inexpensive starch thickener, as compared to the cost of salad oil, is of high quality, tasty and has all the desirable qualities of relatively expensive oily salad dressings or mayonnaise now on the market.

Although it is not exactly clear as to how the inclusion of air with the aeration materials removes the undesirable starchy or gummy taste from the product, it does appear clear, however, that the starch particles which may be present in the product, have been converted into such form that they do not tend to cohere or coalesce either in the composition or upon mastication due apparently to the action of the air bubbles to hold these starch particles apart. As a result it is not readily possible for the consumer to tell that he is eating a starchy product as contrasted to the usual oily product.

The final composition in containing no or little salad oil has substantially the appearance, consistency, smoothness, body texture and other quality of oily salad dressings, or of mayonnaise devoid or starch or made with substantial percentages of oil.

A particular feature of the present invention resides in the fact that these substantially oil-less salad dressings consisting of starch, or other gummy, gelatinous, or pasty materials, air and an aeration agent may be readily packaged in paper, fibre or cardboard cartons with materially lessened or without oil staining or seepage and breaking down of moisture resistant paraffin coatings. This is not possible with the usual type of oily mayonnaise or salad dressing compositions.

In contrast to the usual mayonnaise containing for example, about 80% oil, and 20% of spices, vinegar, and so forth and devoid of starch, and the usual salad dressing containing from 35 to 50% of oil, with about 50 to 65% of aqueous starch paste, spices, and so forth, the composition of the present invention may be devoid of oil or contain small amounts thereof, if at all desired, and may contain about 1% of powdered albumen and up to 99% of the other ingredients including aqueous starch paste composed mostly of water and vinegar with an increased volume per weight depending upon the type and quantity of aeration agent used, etc., of from 10 to 20% or even 50% or more as compared with the average salad dressing or mayonnaise.

The amount of aeration agent used may be varied so as to produce more or less aeration of the product. However, the higher the aeration the greater will be the reduction of the pasty, gummy or gelatinous qualities. Also to produce various qualities and degrees of aeration, various combinations of airifiers may be used. Likewise, various air stabilizers may be combined or used together to provide the various qualities or characteristics required.

With the reduced solid content because of a large air content, a product is produced which has a greatly improved taste, flavor and texture and which is more acceptable than the more gummy, heavier products having a greater specific gravity or a greater weight per volume.

Although heretofore salad dressings have been utilized containing starch together with oil, it has not been possible to remove all or most of the oil and maintain an acceptable product as is done in the present invention, because such oil is necessary to decrease the undesirable starch characteristics and one of the basic advantages of the present invention resides in the fact that all or most of the oil may be removed or eliminated and there will still result a salad dressing of high desirable qualities substantially devoid of any starch characteristics.

To give several examples of compositions which may be made according to the present invention:

Example 1.—A cooked starch base is made up of the following formula:

	Grams
Cornstarch	100
Water	580
Sugar and salt	327
Vinegar	218

These materials are mixed together and cooked until the starch paste is fully thickened.

In order to produce a finished salad dressing the following formula is employed:

	Grams
The above starch paste	289
Dry egg albumen (egg white)	3
Vinegar	15
Water	34
Salt and sugar	37

Paprika to give required color.

The starch paste and the egg albumen are whipped together at high speed for about 90 seconds or until the product has developed a very good fluff. From this point on care must be taken not to whip out the air which has been beaten into the product.

The remaining liquid including the water and

vinegar should be added slowly while the machine is allowed to beat slowly. After the maximum aeration is developed any further beating should be for a very short time and it should be at slow speed. The sugar and salt or other spice materials if required may be added along with the dry egg albumen.

Other examples are as follows:

	Example 2	Example 3	Example 4
The above starch paste.....Grams	289	289	289
Sugar and salt.....do	36	36	36
Gelatin.....do	24		
Liquid egg yolk.....do		15	
Skim milk powder.....do			40
Water and vinegar.....do	34	34	140
Paprika to give required color.			

Examples 2, 3, and 4 should be beaten high speed after all of the materials are combined for from one to several minutes in order to develop a good aerated quality.

It has been found that the speed and intensity of mixing, beating or processing the products of this invention depend upon the ingredients and upon the amount and type of airifier used, as these affect the amount of air that is integrated or retained in the product. In general a high beating of sufficient time should be given to the product in order to produce the maximum amount of aeration and, after this aeration has been produced, if any further mixing or beating is necessary or if the addition of any other materials are necessary these should be added or the product should be beaten or mixed at a slow speed and for the very minimum amount of time so as to retain the maximum amount of air in the product.

Any of the compositions of this invention may be modified by the addition of catsup, chili sauce, prepared mustard, nuts, chopped pickles, peanut butter, chopped meats, cheese, olives, and so forth, in order to produce any usual variety of sauces, spreads or dressings.

This invention also may be utilized generally in connection with emulsions and dispersions, and particularly with oil-in-water emulsions containing an aqueous starchy, gummy or pasty base material, as for instance, in salad dressings. These products have heretofore been made of liquid oil in order to give the product smoothness and creaminess, but it is now possible to eliminate or reduce the liquid oil and yet produce a substantially creamy and smooth product without the use of said liquid oil.

Several very important advantages result from the ability to make a salad dressing with normal salad dressing characteristics, but without the necessity of having to use salad oil in the manufacture thereof. For instance, vegetable oils are very susceptible to rancidity particularly when they have been whipped with air. In addition with oil-water emulsions there is also a tendency for the oil and water to separate. This separation may be due to transportation, climatic conditions, excessive temperature, and so forth. However, in the present invention there is developed a product which has substantially all of the characteristics of normal salad dressing that is made with salad oil, but without the serious disadvantages, as, for instance the development of the oil rancidity, and the separating difficulties which result from a salad dressing made with salad oil.

Products of the present invention are more acceptable because they do not have the "oiliness" that is found in the usual salad dressing which contains liquid oil. There is usually a strong objection among consumers of mayonnaise and salad dressing to "oiliness" or an oily flavor.

Salad oil or other oils may also be included in certain instances in amounts less than 10% and preferably in amounts less than 5%, although as noted above it is desirable to use as close as possible to no oil whatsoever.

It is possible in the case of many aeration agents to use one type of aeration agent in an increased quantity to act as both an air stabilizer and an air integrator, since in many cases both function to some degree in both capacities.

The invention is not intended to be restricted to any particular composition or any particular proportions, nor to any particular ingredients nor to any specific methods of compounding or combining the same, nor to any of the various details thereof, herein described as the same may be modified in various particulars or be applied in many varied relationships without departing from the spirit and scope of the claimed invention, and the practical embodiments herein illustrated and described merely show some of the various features entering into the application of the invention.

What is claimed is:

1. A substantially oilless, aerated salad dressing comprising salad dressing flavoring materials, an aqueous material, a water thickener of normally pasty consistency when gelatinized by the aqueous material, and an aeration agent, said aeration agent being present in the quantity to produce sufficient aeration of the dressing so as to enable reduced gumminess therein of the water thickener and aqueous material, and said water thickener being in pasted form with the aqueous material.

2. A substantially oilless, aerated salad dressing comprising salad dressing materials, water, a water thickener of normally pasty consistency when gelatinized by water, and an aeration agent, said dressing having a gas present in sufficient quantity so as to reduce the pasty characteristic of the water thickener and water combination therein, and said water thickener being in pasted form with the water.

3. An aerated, substantially oilless, relatively non-gummy, and relatively oil-seepageless salad dressing comprising over 20% air by volume, salad dressing flavoring materials, over 7% by weight of liquid egg yolk, and an aqueous starch paste containing a ratio of water to starch of about ten to one.

4. A substantially oilless, aerated salad dressing comprising salad dressing flavoring materials, water, a water thickener of normally pasty consistency when gelatinized by water, an aeration agent, and an air stabilizing agent, said salad dressing having non-toxic gas present therein in sufficient quantity to reduce the pasty characteristic of the water thickener and water combination, said air stabilizer being present in sufficient quantity to increase the strength of the walls surrounding the air pockets within the salad dressing, and said water thickener being in pasted form with the water.

5. A method of enhancing the quality of relatively pasty, substantially oilless salad dressing which salad dressing comprises salad dressing flavoring materials, water, a water absorbent material that gelatinizes in the presence of water to form a pasty mass, with said water absorbent material being in pasted form with the water present, which method comprises including in said

salad dressing an aeration agent in sufficient quantity to make substantial aeration possible, and then beating to cause air to be incorporated in sufficient quantity to substantially reduce the pastiness of the combination of the water and water-absorbent material.

6. A method of producing substantially oilless salad dressing, said method comprising mixing together salad dressing flavoring materials, an aqueous material, a water absorbent material to become pasted with the aqueous material, and an aeration agent, said mixing taking place for sufficient length of time and with sufficient beating so as to entrain an amount of air within the product in sufficient quantity to reduce the pasty quality of the combination of the aqueous material with the water absorbent material, and then discontinuing the agitation at the point that the required amount of air is beaten therein so as not to whip out the air.

7. The salad dressing of claim 1, the aeration agent being egg albumen.

8. The salad dressing of claim 1, the aeration agent being egg albumen, and said salad dressing comprising over 20% by volume of air.

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