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BULLETIN No. 61.

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF CHEMISTRY.

PURE-FOOD LAWS
OF
EUROPEAN COUNTRIES
AFFECTING
AMERICAN EXPORTS.

PREPARED UNDER THE DIRECTION OF
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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF CHEMISTRY,
Washington, D. C., January 3, 1901.

SIR: I transmit herewith, for your inspection and approbation, the manuscript of Bulletin No. 61, of the Division of Chemistry, containing abstracts of the laws regulating the sale of food products in foreign countries.

This bulletin has been prepared, by your direction, in accordance with the provisions made by the act of Congress providing for an inspection, by the Secretary of Agriculture, of food products intended for export to foreign countries.

H. W. WILEY,
Chief Chemist.

Hon. JAMES WILSON,
Secretary of Agriculture.

INTRODUCTION.

Food products exported from the United States to foreign countries are sold in accordance with the local regulations of the several countries into which they are imported. In order that our food products may successfully meet the requirements of foreign legislation, it is important that they be inspected before shipment and a certificate of their composition be furnished for the use of the officials of foreign countries.

The Secretary of Agriculture is empowered by the Congress of the United States to conduct an inspection of this kind in an enactment which authorizes—

the Secretary of Agriculture to investigate the character of the chemical and physical tests which are applied to American food products in foreign countries, and to inspect before shipment, when desired by the shippers or owners of these food products, American food products intended for countries where chemical and physical tests are required before said food products are allowed to be sold in the countries mentioned.

In harmony with the first part of this authority, this bulletin has been prepared especially for the benefit of our exporters of foods, in order that they may know the exact conditions in which their foods must be to comply with the legal restrictions of foreign countries.

This bulletin does not assume to give the full text of all the pure-food laws of foreign countries, nor does it enter into the decisions of the courts, in the several countries mentioned, relating to the execution of these laws. It simply gives a brief summary of the points which are most important and with which our exporters of foods should be thoroughly acquainted. If the foods which are sent abroad are in condition to meet the requirements contained in this bulletin, it is not probable that they will be subjected to any hurtful restraint.

Furthermore, when the inspection of such exported foods has been thoroughly established the exporter will be furnished with an official certificate which can be presented to the officers of foreign countries charged with the enforcement of pure-food laws. Our food products on reaching foreign countries should thereby be protected from erroneous or incomplete analysis or unjust discrimination, either from the analytical or legal point of view.

The suspicion has been at times justly entertained that American food products in foreign countries have been condemned and refused sale on insufficient grounds. The inspection of our food products before shipment to foreign countries should allay this suspicion and should also result in securing greater freedom from adulteration, and this is one of the great points of advantage which should accrue from the rigid execution of the law authorizing inspection. The manufacture and sale of adulterated food products under the guise of pure foods should be prohibited whether intended for home consumption or for exportation. We can not afford to follow the example of some countries which exercise a rigid control of food products intended for home consumption, but are lenient in the control of similar food products intended for export to foreign countries. It is quite certain that we are receiving in this country many food products so adulterated as to exclude them from sale in the countries where they are manufactured. The honesty of commerce and the good character of our foods can be best conserved by requiring for our products exported to foreign countries the same freedom from adulteration, the same purity, and the same excellent condition which we expect of similar products consumed at home.

One great source of the wealth of our country is the exportation of food products. The continued prosperity of our agricultural interests depends largely on extending our foreign markets. It is evident that one of the best ways of doing this is to send to foreign countries only food products of the highest grade and above suspicion of adulteration. This bulletin, placed in the hands of our exporters of foods, will guide them in their efforts to secure this high standard of exports, and the cordial cooperation of all exporters is invited to secure to the fullest possible extent a proper execution of the provisions of the act of Congress relating to this matter.

Regulations for securing samples for inspection and for issuing certificates thereof are now in preparation and will be ready for distribution in a short time to exporters of food products (other than meat products, which are already provided for under the inspection regulations of the Bureau of Animal Industry), and to others interested in the extension of our markets for agricultural products in foreign countries. Applications for these regulations are invited. Such applications will be placed on file, and the requests will be complied with at the earliest possible moment.

H. W. WILEY,
Chief Chemist.

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PURE-FOOD LAWS OF FOREIGN COUNTRIES AFFECTING AMERICAN EXPORTS.

GENERAL SUMMARY.

With the exceptions noted below, almost any food product which is in a good state of preservation and is labeled plainly and distinctly, and in such a manner as to give a true idea of its character, may be sold in any country.

MEAT PRODUCTS.

The new German law prohibits the importation of canned meat, sausage, and macerated meat of all descriptions. Fresh meat may be imported under restrictions. The addition to meat of preservatives and coloring matter is usually prohibited.

DAIRY PRODUCTS.

The requirements of various countries regarding dairy products are very similar to those affecting meat. Butter and cheese substitutes are required to be branded according to carefully prescribed directions, and the amount of butter fat which these substitutes may contain is limited. Belgium requires that oleomargarine shall be sold uncolored, while in Holland and Denmark a maximum depth of color is prescribed.

WINE AND BEER.

Only the fermented juice of the fresh grape, subjected to the usual cellar manipulation, whose limits are carefully defined in the various countries, may be sold as wine. If any other saccharine matter or any foreign material be employed, the product must be so designated as to indicate the fact. Prohibition of the use of chemical preservatives and aniline dyes is almost universal, while the employment of all foreign coloring matter is often prohibited.

The use of chemical preservatives and foreign coloring matter with beer is usually prohibited.

CEREAL PRODUCTS.

Almost all countries require that cereal products shall be prepared from grain that is free from dirt and fungi, mineral matter, and other impurities. The mixture of the ground product of various cereals, or of cereal flour with pea flour, etc., is permitted only when properly labeled.

SUGAR, GLUCOSE, AND CONFECTIONS.

Sugar, glucose, etc., must be commercially pure and must be free from admixture with any foreign substance. Confections may be colored by harmless coloring materials (a list is usually specified), but must be prepared from pure ingredients and must be free from adulteration of any description.

ARTIFICIAL SWEETENING MATERIALS.

The sale of foods containing saccharin, sucrol, and similar preparations is prohibited in Belgium, France, Germany, Italy, and Roumania. The importation of saccharin except for medicinal use and under prescribed conditions is prohibited by Belgium and Greece.

COLORING MATTER.

All countries permit the dyeing of confections and similar articles which are themselves colorless, but are customarily colored artificially. Lists of permissible and of prohibited colors have been adopted by Austria, Belgium, France, Germany, Roumania, and Switzerland. Belgium permits mustard to be colored artificially when properly labeled. Belgium and Holland require that wine to which coloring matter has been added shall be so marked as to indicate that fact. The addition of injurious coloring matter to wine is prohibited in Denmark, France, and Tunis.

CHEMICAL PRESERVATIVES.

The sale of foods containing these substances is usually prohibited. Salicylic acid and boric acid have been used so much more commonly than others that legislation is usually directed against them, though boards of health and similar bodies which have discretion in the matter usually extend the prohibitions to benzoic acid and other preservatives as they come into use.

The sale of foods containing preservatives is prohibited in Austria, France, Hungary, and Roumania. The sale of beverages containing preservatives is prohibited in Belgium, Germany, Tunis, and Switzerland. The addition of salicylic acid to food is prohibited in Buenos Ayres and France. Holland does not permit the sale of beer containing salicylic acid, and Spain forbids its addition to wine. Italy permits the addition of 0.2 per cent of boric acid to butter, but forbids the use of other preservatives.

CONTAMINATION WITH METALS.

Strict regulations regarding the content of poisonous metals of food receptacles and utensils used in the preparation of foods have been adopted by Austria, Belgium, France, Germany, and some of the cantons of Switzerland.

AUSTRIA.

COLORING MATERIALS.

The use of colors which contain any metal except iron and the use of gamboge, picric acid, and all aniline derivatives for the purpose of coloring food and food products is forbidden.

For coloring toys, preparations containing arsenic, antimony, lead, cadmium, copper, cobalt, nickel, mercury (cinnabar excepted), zinc, or gamboge are prohibited. The use of other metallic colors for coloring toys is permitted, provided the color be coated with a waterproof varnish. The colors whose use is forbidden with toys may be employed with earthenware, provided they are covered with a glaze which is burned in.

The use of poisonous colors, such as arsenic preparations, with artificial flowers and similar substances, is forbidden unless the article be covered over with a waterproof varnish. Wall paper and similar material must not be colored with arsenic preparations.

The sale of food which has been prepared in vessels coated with poisonous colors, or stored in receptacles so coated, is prohibited. The importation and sale of wines colored with aniline dyes are prohibited. Foods and food products which are themselves white or colorless (confections, beverages, etc.), but which are ordinarily artificially colored, may be colored by any of the following substances, provided the articles so colored shall be sold from the factory only in the original packages which are distinctly labeled with the name of the material employed for coloring the contents of the package, and also with the registered seal or trade-mark of the manufacturer. The label must also bear a statement from a prescribed official laboratory (Chemischen Hochschulinstitute) that the contents of the package contain no substances deleterious to health. This statement must bear a later date than the latest decision of the health office regarding the subject and must be renewed at least annually. The list of aniline colors which may be employed under these restrictions is as follows:

Fuchsin—rosaniline hydrochlorate.

Acid fuchsin (rubin)—sodium or calcium salt of rosaniline disulphonic acid.

Rocellin—sulpho-oxazonaphthalin.

Bordeaux red—formed by the combinations of *beta*-naphthol disulphonic acid with diazo compounds of zylol and the higher homologues of benzene.

Ponceau red—same as Bordeaux red.

Eosin—tetrabrom-fluorescein.

Erythrosin—tetraiodo-fluorescein.

Phloxin—tetrabrom-dichlor-fluorescein.

Alizarin blue— $C_{17}H_9NO_4$.

Aniline blue—triphenyl rosaniline.

Water blue—triphenyl rosaniline sulphonic acid.

Induline—the sulphonic acid compound of azo-diphenyl blue and its derivatives.

Acid yellow R—the sodium salt of amido-azo benzene sulphonic acid.

Tropaeolin OOO—sulpho-azo benzene- α -naphthol.

Methyl violet.

Malachite green.

Naphthol yellow.

In addition to the above, only the following colors may be added to food:

White.—Tragacanth.

Red.—Cochineal, carmine, kermes, infusion of red poppy.

Yellow.—Saffron, safflower, turmeric.

Blue.—March violet, blue bottle, indigo, prussian blue, ultramarine, sea blue (form of artificial ultramarine).

Green.—Spinach juice.

Violet.—Cochineal infusion with lime water.

Gold.—Pure gold leaf.

Silver.—Pure silver leaf.

Wrappers for confections, coffees, and other varieties of food must either be white or prepared from material which is naturally colored. If a wrapper which is artificially colored be employed, a second wrapper of the character above described must be placed between it and the inclosed product, and no artificially colored wrapper may be used in any case to inclose any but a dry, solid material. The use of wrappers containing copper salts is especially prohibited.

RECEPTACLES.

Food receptacles and utensils intended for the preparation of food must not be either partially or entirely composed of an alloy containing more than 10 parts of lead per 100 parts of the alloy. The inside of such receptacles must not be coated with tin which contains lead. Such receptacles must not be soldered with an alloy containing more than 10 per cent of lead. In case of glazed and enameled ware, lead must not be present in such state that it will be dissolved by boiling one-half hour with a 4 per cent solution of acetic acid. The glass or enamel must not be so attached to the vessel that it will scale off. Metallic parts of nursing bottles must not contain more than 1 per cent of lead. Metal foil, which is used as a wrapper for such products as snuff and tobacco, must not contain more than 1 per cent of lead. Vessels which have been cleaned with the aid of leaden shot must not be used as receptacles for food products. The sale of food products which have been ground with millstones filled with lead or an alloy containing lead is prohibited.

Rubber or caoutchouc which contains lead or zinc must not enter into the composition of such articles as nipples of nursery bottles, rubber rings, nipple shields, etc., or as receptacles for such articles as beer, wine, vinegar, and preserves, or of vessels which are to be used in the preparation of food products or as receptacles for the same.

If antimony sulphid enters into the composition of vessels which are used in connection with food products, it must be so prepared that no antimony is dissolved by a dilute solution of tartaric acid. Copper and brass vessels must not be used in the preparation of foods unless

the inner side be coated with lead-free tin. All manipulations are prohibited which could by any means bring copper compounds into the composition of food materials.

The addition of fluorids to foods is especially prohibited, as is also the addition of salicylic acid to wine.

MUNICIPAL REGULATIONS OF VIENNA.

Municipal regulations for Vienna prescribe that the term "butter" shall be used only for the exclusive product of pure milk or cream. Fats from all other sources must be designated as margarine butter, lard, or compound lard, according to their character. Margarine butter must be molded in brick-form prints, and the words "Margarinebutter" must be marked on every print in distinct characters of such size that the words shall extend the entire length of the print. The wrapper in which each print is sold must also be marked in distinct indelible characters with the words "Margarinebutter." Every receptacle containing compound lard must be distinctly printed with the name "Margarineschmalz" or "Kunstfett." The terms "Echthebutter" or "Butterschmalz" are applied only to articles containing fat obtained from pure milk. "Schweinefett" must be used only to designate pure lard. "Margarinebutter" is applied to all butter substitutes which do not consist exclusively of butter fat. "Kunstfett" is used to designate compound lard.

BELGIUM.

EDIBLE FATS.

The word "lard" must be applied only to pure unmixed swine fat. All other edible fats, excepting butter and margarine, must be so marked as to indicate exactly their origin, or with the words, "mixed fat" (*graisse mélangée*).

All receptacles containing other edible fats than lard, butter, and oleomargarine, must be plainly marked as described above, and also with the name of the manufacturer or dealer, or with some registered mark.

Lard and other edible fats which contain more than 1 per cent of water or salt must be labeled, "watered" (*aqueux*), or "salted" (*salé*). The addition of mineral substances, other than salt, and of chemical preservatives and glycerin is forbidden.

It is forbidden to sell spoiled or deteriorated edible oils as food. All receptacles containing oils must be branded with the word "oil" immediately preceded by a word in similar type which will give the true and exact source of the contents of the receptacle; for instance, olive oil, peanut oil, sesame oil, etc.

BUTTER.

The term "butter" must be used only with reference to fat obtained exclusively from milk or cream with or without the addition of coloring matter or salt. All butter containing other additions and all butter substitutes must be designated as margarine. Margarine must not contain more than 5 per cent of butter fat and must not be artificially colored. The maximum color permitted in margarine may be decided by the minister of agriculture. These regulations regarding the addition of butter fat to margarine and the height of color of the same are not applied to margarine intended for export from Belgium.

The receptacles and packages which contain margarine must be plainly labeled with the word "margarine" in letters at least 2 cm high, as well as the name of the manufacturer or dealer. Margarine which is not in packages must be molded in cubical form with the word "margarine" impressed, as well as the name of the manufacturers or dealers. The sale of rancid butter or butter made from the milk of diseased or improperly fed cows is forbidden. It is also required that margarine shall be fresh and made from the fat of healthy animals. The addition of glycerin to butter and margarine is prohibited.

COCOA AND CHOCOLATE.

The term "cocoa mass" must be used exclusively for the product of the seed of the cocoa tree, whether it be raw or roasted, entire, hulled, or ground, with, or without the addition of foreign substances. Finally, such product may be melted or molded in ingots or tablet form or pulverized. The term cocoa may be applied to the prepared product of the cocoa tree from which a portion of the fat has been removed, provided that the fat content of the product is not less than 20 per cent. The term "alkalized cocoa" may be used to describe the product to which an addition of alkaline carbonate has been made to render it more soluble; but the alkaline carbonate so added must not exceed 3 per cent of the total weight of the product. Cocoa which contains more than 3 per cent of alkaline carbonate is considered unwholesome and its sale is forbidden. The characterization "alkalized" is not necessary if the product is intended for export from Belgium.

Cocoa which is prepared otherwise than by the methods described above must be marked on the wrapper with the word "cocoa," followed in the same type by words which will give an exact description of the method used in preparation. The term chocolate is applied to the product made exclusively from hulled cocoa, to which at least 35 per cent of its weight of cane sugar has been added, with or without the addition of spices.

Products which contain 35 per cent of hulled cocoa, but at the same time other substances than sugar and spices, can be sold only when

marked on the wrapper in the same type as the word "chocolate" with a word which will give an exact description of the foreign substances present, or when labeled with a name in which the word "chocolate" does not appear. When molded in tablet form, the above description must be impressed or printed in raised characters on every tablet. Any preparation which contains less than 35 per cent of hulled cocoa must not be sold as cocoa bon bons or under any other name in which the word "cocoa" or "chocolate" appears. All bills and shipping receipts must be designated in the same manner as the preparations described above. All packages of cocoa must be marked with the name of the manufacturer or dealer or with the registered mark. These provisions apply to ordinary chocolate in tablet, block, or powdered form, or chocolate croquettes, but not to special preparations containing chocolate sold by confectioners and bakers.

CHICORY.

The term "chicory" must be applied exclusively to the product of the chicory root, either in its natural condition or by any appropriate treatment, such as roasting, powdering, drying, etc. Chicory must not contain more than 15 per cent of water (dried at 100° C.). The ash content of the dried material must not exceed 10 per cent when finely powdered, or 8 per cent when coarsely powdered. Chicory must not lose more than half its weight when extracted with boiling water. Chicory which is put up in packages, with the weight of the contents marked on the package, may have a higher water content than 15 per cent if the weight of substance in the package is correspondingly greater than that stated on the label. An addition of fat or saccharine matter not exceeding 2 per cent of the total substance is permitted. Bags and other receptacles in which chicory is shipped or sold must bear the name of the packer or dealer, or some registered mark.

MUSTARD.

The sale of any substance other than a mixture prepared of ground black and white mustard seed, under the unqualified name of "mustard," is prohibited. All similar preparations, such as those containing pepper, estragon, rice, and foreign coloring matter, can be sold only when each package bears in the same type as the word "mustard" the names of all foreign substances present, or the designation "prepared mustard," or some designation not containing the word mustard may be employed. In the preparation of mustard the use of vinegar which does not comply with the law of January 3, 1894, is prohibited. The use of deteriorated, decayed, or unwholesome substances in manufacturing prepared mustard is forbidden. Mustard preparations which do not comply with these requirements and are not intended for use

as a condiment must be plainly labeled with a statement of the use for which they are intended. All packages of mustard and mustard preparations must be marked with the names of the manufacturers or dealers or with a registered label.

FISH.

Fresh or preserved fish which has been mixed with matters other than spices, condiments, aromatic jellies the principal ingredient of which is gelatin or gelose, must not be sold unless a plain label shall indicate the nature of the foreign substance used. Canned-fish products must have a label showing the kind of fish, and also, if necessary, the kind of oil, etc., used. Fish, shellfish, etc., caught with indian berry (*Cocculus indicus*) or other poisonous substances and those mixed with antiseptics are declared injurious. No substances injurious to health are allowed to be used. Receptacles containing fish must bear the name and address or the registered mark of the seller. It is further forbidden to sell or keep in the same premises with food products fish not intended for alimentary purposes unless these are clearly marked "Not eatable," or the like.

SUGAR.

It is provided that the word "sugar" and similar terms shall refer only to the product obtained from the juice of sugar cane, sugar beet, and similar plants. All other products, such as dextrose, which are used for sweetening purposes must be properly labeled. Mixtures of cane sugar with other materials, such as dextrose, can be sold only when so labeled as to inform the purchaser of the character of the goods.

White sugar must not contain more than 0.2 per cent of mineral substances, raw sugar not more than 2.5 per cent of mineral substances, and glucose not more than 0.8 per cent of mineral substances. Glucose must not contain more than 0.05 grams of free acids (calculated to sulphuric acid) per 100 grams of dry matter, nor appreciable quantities of oxalates, oxalic acid, arsenic compounds, lead, zinc, or barium.

Sugar must not be deteriorated in any manner—for instance, coated with mold. The addition of preservatives and the presence of fungicides are forbidden. Bags, barrels, and other receptacles must be plainly marked with the name of the manufacturer or dealer.

SACCHARIN.

The importation, manufacture, shipping, and selling of saccharin and other products, which are formed synthetically and possess a sweet taste similar to that of sugar but have no nutritive value, are prohibited. The use of saccharin and similar products in the preparation of foods and the sale of foods containing them are also prohibited.

FLOUR AND BREAD.

The words "flour" and "bread" must be used exclusively to denote wheat products. For designating the product of any other cereal it is necessary to employ also the name of that cereal, for instance, "rye flour," "rye bread," etc. Mixtures of rye flour with other cereals must be designated by the word "météil." Flour must be manufactured from grain which is sound and in good condition and which has been thoroughly cleaned. The sale of flour which is adulterated with mineral matter is prohibited. The word "tapioca" must be used exclusively to refer to food products derived from the cassava root.

WINE.

In the application of these regulations one understands—

(1) By wine, the product of alcoholic fermentation of the juice or must of the fresh grape.

(2) By sweet wines or liqueurs or cordials ("vin de liqueur" or "vin de dessert"), the product of alcoholic fermentation, whether it be of the juice or must of the grape, more or less dried, or concentrated by evaporation, containing usually about 14 to 18 per cent of alcohol and an excess of natural grape sugar.

(3) By sparkling wines (vin mousseux), the product of the fermentation of the juice or must of the fresh raisin surcharged with pure carbonic acid.

(4) By wine of the second vat, wine made from the residuum of grapes (piquette), wine from the lees or dregs, wine from the dried grape, sparkling wine from the dried grape, cider, sparkling cider, hydromel, etc., the vinous beverages which present an analogy with wines and which are the product of the fermentation of the juice or must extract of the dregs or lees of the fresh or dried grape, of the juice of the apple, of honey, etc., with or without the addition of sugar, alcohol, or pure carbonic acid.

It is forbidden to sell or expose for sale, to hold, or transport for sale or for delivery as wine, any wine to which foreign substances have been added.

This prohibition does not apply to the following:

(1) The addition of clarifying agents acting mechanically (albumin, gelatin).

(2) The addition of ordinary salt on condition that the content of chlorids, calculated as sodium chlorid, does not exceed 2 grams per liter.

(3) The addition of gypsum on the condition that the content of sulphates, calculated as potassium sulphate, does not exceed 2 grams per liter.

(4) The presence of sulphurous acid, because of sulphuring the casks, on condition that the wine shall not contain more than 2 milligrams of free sulphurous acid nor more than 20 milligrams of total sulphurous acid per 100 cc.

(5) The addition of pure sugar or alcohol, provided that the receptacles in which the wine is placed shall bear in a conspicuous place and in plain characters, as large and as conspicuous as any other letters used for other inscriptions, the word "sugared" or "alcoholized" ("sucré" or "alcoolisé"), as the case may be, and that this statement be reproduced on the invoice, the bill of lading, or the booking-office ticket.

Wine, as well as the vinous beverages having an analogy to wine, to which have been added foreign substances, with the exception of those enumerated above, can not be kept for sale, exposed for sale,

for delivery or retail, except in receptacles bearing in a prominent place and in legible characters, as large and as conspicuous as those employed for any other inscription, an indication of the materials introduced in their preparation, for example, "watered wine," "colored wine," "aromatized wine," "dried grape wine," "cherry wine," or an inscription sufficiently clear to make known their origin, such as "piquette," "cider," "hydromel." This statement need not include the names of the vineyards of true and natural wines. These should be found in the invoices and the bills of lading or booking-office tickets.

Wines, liqueurs (vins de liqueurs), sparkling wines, and vinous beverages to which the following substances have been added are declared injurious:

- Ethers, or essential oils (oil of wine);
- Bitter almond, cherry, laurel;
- Alkaloids;
- Compounds of arsenic, lead, zinc, aluminum, barium, strontium, calcium, magnesium, alkalies;
- Mineral acids, free or combined oxalic acid;
- Salicylic acid or other antiseptics (with the exception made in favor of sulphurous acid in the amount specified);
- Glycerin;
- Sugars, cask sugars, or impure alcohol, the sale of which is forbidden for edible purposes by the rules relative to those commodities; alcohols other than ethyl alcohol;
- Sulphates, in greater quantity than indicated above, or of more than twice that quantity in the case of liqueurs (vins de liqueurs).

It is forbidden to add to wine or liqueurs (vin de liqueur), to sparkling wines, or vinous beverages, any of the substances mentioned above, or any other substance injurious or dangerous to the health.

All casks in which wine, liqueurs, and vinous beverages will be exposed for sale or delivered must bear the name of the firm, as well as the address, or at least the registered mark of the maker or seller.

DENMARK.

WINE.

The following additions to wine are prohibited:

Alum, or other soluble aluminum salts; barium compounds; strontium compounds; magnesium compounds; boric acid; salicylic acid; spirits containing fusel oil; crude (not technically pure) glucose; kermes; injurious coloring material; glycerin; saccharin; flavoring materials, such as ethereal oils, essences, etc.; gums, and other organic and inorganic materials intended to increase the extract content.

The following additions are permitted without declaration:

The use of common clarifying agents, such as albumin, gelatin, isinglass, Spanish earth, and other common substances; the neutralization of excessive acid with precipitated calcium carbonate; the customary sulphuring of casks; the pasteurization of wine; the blending of wines (in blending only dry wines may be mixed with dry wines).

Dry wines must not contain more than 0.2 gram of sulphuric acid (calculated to potassium sulphate) per 100 cc. The addition of foreign coloring matter is prohibited unless the same is declared on the label. The addition to dry wines of saccharine matter either in a solid state or in solution is permitted if the same is stated on the label. The same is true of the addition of water. These provisions do not apply to red wines which are rich in extract and coloring matter and hence in their natural state not suitable for consumption, provided that after treatment such wines shall not contain less than 2 grams of sugar-free extract per 100 cc, and that no sugar other than the ordinary grape sugar shall be found in the extract. Wines which shall receive an addition of water and which fulfill the required conditions of percentage of extract, etc., may be blended with other wines of normal composition without regard to the extract content of the blend so produced. The addition of alcohol to dry wine must be indicated on the label; this, however, does not apply to the alcohol necessary for ordinary cellar manipulation. The alcohol so employed must be fully refined and of not less than 93.25 per cent by volume, and the amount added must not exceed 2.5 liters for 240 liters of wine. In the case of wines which are not fully fermented and whose sugar content is such as to make it doubtful whether they should be classified as dry or as sweet wines, the addition of alcohol of not less than 93.25 per cent per volume in such quantity that the alcohol content of the product shall not exceed 17 per cent per volume is permitted. Port wine, sherry, madeira, and liqueurs from foreign lands must conform to the customary composition of these wines in the country where they are produced. These wines may be manufactured from dried grapes under the condition that the alcohol content shall not exceed 25 per cent per volume, and the sugar-free extract shall not be less than 2 grams per 100 cc. On the other hand, the addition to these wines of sugar or other material which is not the product of the grapes, without indicating the same on the label, is prohibited. Wines of this class which are too low in alcohol may be fortified with alcohol of not less than 93.25 per cent by volume. The alcohol content of the product must not exceed 25 per cent by volume. Dessert-wines must be the customary product of the region of their production with the exception that they may receive the ordinary cellar manipulation. The term "champagne" may be applied only to wines fermented under pressure. Carbonated wines may be sold if properly designated.

Cognacs, rum, and arak must not receive the addition of alum or other soluble aluminum salts, barium compounds, strontium compounds, magnesium compounds, boric acid, salicylic acid, alcohol containing fusel oil, crude glucose, kermes, or other unwholesome materials.

OLEOMARGARINE.

This product must be branded and put up in prints in a prescribed manner; it must not contain more than 50 per cent butter fat, and the shade of color permissible is fixed.

ENGLAND.

All adulterated or impoverished articles of food must be in packages conspicuously marked with the true description of the contents of the package. The addition to foods of coloring materials and preservatives which are harmless in the quantity employed is permitted.

It is required that margarine, filled cheese, etc., be conspicuously marked on the top and sides of each package with the words "margarine" or "margarine cheese," as the case may require. Margarine must not contain more than 10 per cent of butter fat. Adulterated or impoverished butter, other than margarine, must be in packages so marked as to indicate the exact nature of the contents of the package.

Every can of condensed, skimmed milk must have a label clearly visible to the purchaser, on which the words "machine-skimmed milk" or "skimmed milk," as the case may require, are printed in large, legible type.

FRANCE.

The law of February 2, 1899, regulates the commerce in fertilizers, butter, and wines especially; it also applies to all articles of merchandise of whatever nature. Misrepresentation concerning the nature, quality, or quantity of articles covered by this law is prohibited.

Cans and similar receptacles containing food must not be coated with an alloy containing more than 0.5 per cent of lead or 0.01 per cent of arsenic, and must not be soldered with an alloy containing more than 10 per cent of lead or 0.01 per cent of arsenic.

Only lead-free tin foil may be used as wrappers for food materials.

BUTTER AND BUTTER SUBSTITUTES.

The term butter shall be applied only to products made exclusively from milk or cream. All other fat materials having the appearance of butter must be sold as margarine, and must not contain more than 10 per cent of butter fat. The receptacle containing oleomargarine must be indelibly branded with the word "margarine" or "oleomargarine." The constituents of the contents of the receptacle and the percentage of each constituent present must be given on all bills rendered for such goods. In wholesale trade, the name and address of the manufacturer must be given on the receptacle containing margarine. If sold at retail, margarine must be in cubical prints with the word "margarine"

or "oleomargarine" impressed on one side of the print. Each print must also be inclosed in a wrapper on which the word "margarine" or "oleomargarine" is indelibly printed. Every bill, letter, and package in any way relating to the sale or transportation of margarine must be distinctly marked with the word "margarine" or "oleomargarine."

WINE.

The addition of sulphuric acid, nitric acid, hydrochloric acid, salicylic acid, boric acid, and analogous substances, as well as the addition of coloring matter, is prohibited. Wine must not contain more than 0.1 gram of sodium chlorid per 100 cc, or more than 0.2 grams of potassium sulphate.

Wine is defined as the fermented juice of the grape treated in no way except by the ordinary cellar manipulation, including the addition of sufficient water to the must to reduce its sugar content to 29 grams per 100 cc, or the dilution of sufficient pure alcohol to give a normal composition to very low wine. The addition of both alcohol and water to the same must or wine is not permitted under any circumstances.

The product of the fermentation of the lees, with or without the addition of sugar, and mixtures of the same with wine, can be sold only as "Vin de marc" or "Vin de sucre," and receptacles in which the same is sold must be conspicuously labeled with an orange-colored label containing the appropriate name.

The product of the fermentation of dried raisins, and mixtures of the same with wine, can be sold only as "Vin de raisins sec," and must bear in a conspicuous place a label of green paper marked with its correct name.

COLORING MATERIALS.

Foods and food products must not be colored with any mineral substance, except that prussian blue, ultramarine, chalk, and ochre may be used with confections or similar products. Confections and other products must not be inclosed in wrappers which are colored with the prohibited substances. All confections inclosed in packages must bear the name and address of the manufacturer or dealer. The use of litharge, lead acetate, and similar compounds for clarifying saccharine products and fermented beverages is forbidden.

The use of the following coloring materials with foods is prohibited:

Mineral colors:

Compounds of copper, lead, arsenic, and mercury, and barium chromate.

Organic colors:

Gamboge; aniline derivatives, such as fuchsin, Lyon blue, flavanilin, methylene blue; phtaleins and their derivatives, such as eosine, erythrosin; nitro compounds, such as naphthol yellow and Victoria yellow; diazo compounds, such as tropeolins and xyloidine red.

As exceptions to the above general regulations, however, the following compounds may be employed in coloring confections, pastry, and liqueurs, which are ordinarily white or colorless:

Rose colors:

Eosine (tetra brom-fluorescen).

Erythrosin (methyl and ethyl derivatives of eosine).

Bengal rose, phloxin (iodin and bromin derivatives of fluorescen).

Bordeaux red and Ponceau red (resulting from the action of the sulpho-derivatives of naphthol on the diaz xylens).

Acid fuchsin (without arsenic and prepared by the Coupier method).

Yellow colors:

Acid yellow (derivatives of sulphonates of naphthol).

Blue colors:

Lyon blue, light blue, Coupier blue, etc., (derivatives of triphenil rosanilin or of diphenylamin).

Green colors:

Mixtures of blue and yellow named above.

Malachite green.

Violet colors:

Paris violet or methylanilin violet.

GERMANY.

MEAT.

A new law regulating the preparation, importation, and sale of meat and meat products was passed by the Bundesrath and the Reichstag in June 19, 1900, to take effect in April, 1901. Regulations for its enforcement have not yet been promulgated. The importation, except in "free ports," of meat in hermetically sealed cans and similar receptacles, and of sausage and macerated meat of all descriptions, is unequivocally prohibited.

It is provided that fresh meat must be imported in the entire body or in halves. The meat must be so dressed that the breast, diaphragm, lungs, heart, and kidneys, and, in the case of cows, also the udder, retain their natural position in connection with the body.

Prepared and preserved meat can be imported only when the method of preparation or preservation to which it has been subjected is such as to add to or produce in the meat no injurious substances.

The above requirements do not apply to corned beef, ham, bacon, or casings provided that the corned beef is not imported in pieces weighing less than 4 kilograms (8.8 pounds). Meat which has been preserved by processes which will enable it to retain all of the characteristics of fresh meat (refrigeration) is subjected to the restrictions applied to fresh meat.

The foregoing regulations are to remain in force until December 31, 1903, or until other regulations are provided.

Horse flesh can be imported only when so designated in the German language that its true nature will be understood by the purchaser.

In Prussia a regulation is in force relating to the amount of flour that may be added to the several varieties of sausage. "Fleischwurst" shall receive at the most 4 per cent. "Blutwurst" and "Leberwurst" selling for not more than 0.70 marks per half kilogram shall not contain more than 5 per cent of flour. "Plockwurst," "Cervelatwurst," "Salamiwurst," "Bratwurst," "Mettwurst," "Blutwurst" and "Leberwurst" which sell for more than 0.70 marks per half kilogram must not receive the addition of flour. Sausages which are treated with flour must be so marked as to indicate that fact ("Wurst mit Mehlzusatz").

BUTTER AND EDIBLE FATS.

All packages of butter substitutes, filled cheese, and compound lards must be branded "Margarine," "Margarinekäse," and "Kunstspeisefett," respectively. Each package must also be marked in a conspicuous place with a red stripe at least 2 cm wide for packages 35 cm high or less and 5 cm wide for higher packages. The same articles, when sold at retail, must be in wrappers marked "Margarine," etc., and also with the name of the dealer. All prints must be cubical in form and stamped "Margarine," etc., in sunken letters.

To facilitate the examination of samples, the Bundesrath has decided that all fats used in the preparation of butterine shall receive an addition of 10 per cent of their weight of sesame oil, and all fats used in the preparation of filled cheese shall receive an addition of 5 per cent of their weight of sesame oil. The sesame oil employed must be such that when a mixture of 0.5 part of sesame oil with 99.5 parts peanut or cotton-seed oil be shaken with an equal volume of hydrochloric acid (specific gravity 1.19) and a few drops of a 2 per cent alcoholic solution of furfural a marked red color is imparted to the acid layer.

Patterns of labels to be employed with butter substitutes, etc., have been adopted by the Bundesrath thus: The space within the line inclosing the label must not be more than 7 times as long as high, and must not be less than 30 nor more than 50 cm high, except that with round or oval packages whose greatest diameter does not exceed 15 cm the space may be decreased to 15 cm. Directly above this label a red strip at least 2 cm wide on packages up to 35 cm high, and at least 5 cm wide on higher ones, must extend around the package, but shall not interfere with the mark "Margarine," etc. The name of the manufacturer and the brand must be near the word "Margarine," but must not be in contact with it nor with the encircling line or red band. The designation, name of manufacturer, and brand must either be burned in or painted on white or bright yellow ground in black letters, and must be on two opposite sides of package and also on the top, if there be a top, and on both ends of casks. In prints, the pattern described above must be followed, but the limitation of size is removed, and the word

“Margarine” may be divided in two and the word “Margarinekäse” in three portions connected by hyphens.

In Prussia the terms “Smalz,” “Bratensmalz,” “raffinirtes Smalz,” etc., can be applied only to pure lard. Mixtures containing other fats or oils must be called by such name as “Speisefett.”

COFFEE.

Coffee substitutes must be inclosed in packages which bear a label stating the chief ingredients in combination with the word “Kaffee.” The name of the manufacturer must also be stated on the package. Mixtures of coffee and coffee substitutes can be sold only in packages which are plainly marked so as to give the purchaser a true idea of the nature of the contents, for instance, “Coffee and coffee-substitute mixture” (Kaffee-surrogat-mischung). The name and location of the manufacturer must also be stated on the package, as well as the materials from which the product is prepared.

It is forbidden to manufacture, sell, or hold for sale machines for the preparation of artificial coffee beans.

SACCHARIN.

The manufacture and sale of foods and beverages containing artificial sweetening material (saccharin, dulcin, etc.), are prohibited.

WINE.

The law prohibits the addition to wine, wine-like, or wine-containing beverages of soluble aluminum salts, barium compounds, boric acid, glycerin, kermes, magnesium compounds, salicylic acid, impure alcohol, glucose (not commercially pure), strontium compounds, and aniline dyes; or the addition of more than 0.2 gram per 100 cc. of potassium sulphate, except in dessert wines (southern sweet wines) of foreign origin. The use of “sugar water” and “pressed” grapes; of sugar and wine yeast; of raisins, currants, and other sweetening materials than cane sugar or dextrose; of acids and flavors; of gums and other substances which influence the extract, except as hereafter provided, is prohibited unless the goods are so labeled as to indicate such additions. Raisins may be added to dessert wines (southern sweet wines). The addition of saccharin is forbidden for all wines and similar beverages. More liberty is given in sparkling wines.

The following additions are permitted:

Alcohol, not over 1 per cent by volume; small amount of clarifying agents (albumen, gelatin, isinglass, etc., sodium chlorid, carbon dioxid, and sulphur dioxid); the blending of wines; neutralization with pure precipitated calcium carbonate; addition of such amounts of technically pure sucrose, invert sugar, and dextrose as will not bring the

ratio of ash to extract below that of unsugared wines of the vicinity. The extract content must not be below 1.5 grams per 100 cc; the extract content less total acids must not be below 1 gram per 100 cc; the extract content less fixed acids must not be below 1.1 grams per 100 cc. The ash must not be below 0.14 gram per 100 cc.

UTENSILS, TOYS, ETC.

Cooking utensils and receptacles for foods and vessels used for preparation of beverages and fruit juices must not contain over 10 per cent of lead in any part. The inside must not be coated with an alloy which contains over 1 per cent lead, and solder exposed to contents must not contain over 10 per cent of lead (except solder with lead-free Britannia metal). Enamels and glazes must not yield lead on boiling one-half hour with a 4 per cent solution of acetic acid. Alloys containing over 1 per cent of lead must not be used in siphons for carbonated beverages or for metal parts of nursing bottles. Rubber containing lead or zinc must not be used for mouthpieces, nursing bottles, nipple shields, etc. Rubber containing lead must not be used for drinking cups or toys (except large balls), or for tubes for beer, wine, or vinegar. Containers must not be cleaned with shot. Snuff, chewing tobacco, and cheese must not be wrapped in foil containing over 1 per cent lead. Cans must not contain over 1 per cent lead on the inside or have exposed solder containing over 10 per cent of lead.

COLORING MATERIALS.

The following are provisions relating to the addition of coloring matter to foods, beverages, toys, cosmetics, and vessels, wrappers, and covers for foods:

The addition of the following to articles of food and drink are prohibited: Colors which contain antimony, arsenic, barium, lead, cadmium, chromium, copper, mercury, uranium, zinc, tin, gamboge, corallin, and picric acid.

Vessels, wrappers, or covers dyed with the above-mentioned colors must not be used for holding or protecting articles of food or drink. This regulation does not apply to the use of the following: Barium sulphate (heavy spar, permanent white), barium colors free from barium carbonate, chrome green, copper, zinc, tin, and their alloys, when applied as metallic colors, cinnabar, tin oxid, tin sulphid in the form of gold-bronze ("musivgold") all vitrified colors in glass, glazes or enamels, and colors on the outside of water-tight vessels.

In the manufacture of toys (including picture cards, picture books, and water colors, flowerpot covers, and artificial Christmas trees) the materials mentioned above as forbidden are not to be used. This regulation does not apply to the articles enumerated above as exceptions, nor to antimony sulphid and cadmium sulphid applied as color in



gum; lead oxid in varnish; white lead as a component of the so-called molded wax, if the same does not amount to more than 1 part in 100; lead chromate by itself or in association with lead sulphate, in oil or lacquer, covered by lacquer or varnish; zinc colors insoluble in water, in rubber toys, if used in the coloring of the rubber, or as lacquer or oil color applied with lacquer or varnish, and all vitrified colors applied with enamel.

HUNGARY.

ALCOHOLIC BEVERAGES.

The addition to alcoholic beverages of strong commercial essences with a sharp odor, especially of sharp spices and vegetable materials, such as pepper, paprika, sea onions, etc., of narcotic substances, fusel oil, or any other substance that will increase its sharp or narcotic taste, is prohibited. This prohibition does not extend to medicinal and dietetic alcoholic preparations.

The manufacture and sale of adulterated wine is prohibited. All wines are considered adulterated which are not exclusively made from grape must, with such additions as are necessary in ordinary cellar manipulation. It is also prohibited to misrepresent the location in which a wine was made or the variety of grapes used in its manufacture.

The must may receive additions of refined sugar, grape sugar, or fruit sugar, as well as dried berries and dried raisins. In the Toquay wine region these additions are not permitted, but since it is fraudulent to designate wines falsely as to the place of manufacture or the variety of grape used, this prohibition does not affect wines from foreign countries.

The addition of refined alcohol and pure cognac is also permitted, and the must may be treated with arsenic-free sulphur and the scum removed by skimming. The excessive acidity may be neutralized with calcium carbonate or potassium carbonate. In no case, however, is any addition permitted which will change the composition to an appreciable extent or cause its ingredients to vary from the required proportions. The wines in cellar manipulation may receive an addition of refined alcohol or cognac, or the usual harmless clarifying agents. The acidity may be regulated, in the case of excessive acidity, by the addition of calcium carbonate or potassium carbonate, or the acid may be increased by the addition of cream of tartar, tartaric acid, or malic acid.

Wine may also be sulphured with arsenic-free sulphur and receive the proper manipulation for its preservation, providing that no injurious substance be added. In the manufacture of sweet wines refined sugar, saccharine material, caramel, dried raisins, and the required amount of yeast may be added for the after fermentation. In no case may anything be added in such quantities that the required propor-

tions of the various ingredients of the wine shall be altered. The addition to must or wine of material not specified, or especially of saccharin, glycerin, salicylic acid, flavoring extracts, ethereal oils, or other liquids, and of all vegetable, mineral, and aniline colors, with the exception of safflower, is expressly prohibited.

Carbonated wines can be sold only under the proper designation. The lees may be used in the manufacture of "Tresterwein" when they are extracted with sugar water for fermentation, and for "Nachwein" when extracted with water and refined alcohol or cognac.

ITALY.

DAIRY PRODUCTS.

The term "butter" must be used only to designate fatty material obtained from milk and cream by mechanical operations. The sale of abnormal or rancid butter or butter manufactured from the milk of diseased or improperly fed cows is prohibited. Butter must contain no injurious coloring matter, and must contain no added substances, such as foreign fats, flour, sirups, chalk, plaster, or soluble glass. No chemical preservatives may be added other than common salt and borax, and the latter must not be present in greater quantity than 0.2 per cent. The fat content of butter must not be less than 82 per cent. All edible fats which are to be used as butter substitutes, and all butter adulterated with foreign fat, must be sold under some such name as "margarine." Butter and other edible fats of animal or vegetable origin must be in a good state of preservation, and if of animal origin must have been prepared from a healthy animal.

Cheese must contain no substance which is not obtained from milk and cream, other than salt and harmless coloring matter.

The sale of eggs which are tainted or colored with injurious substances is forbidden.

CEREAL PRODUCTS.

Cereals and mill products must be in a good state of preservation, free from mold, weed seed, and other impurities. The addition of alum, copper sulphate, zinc sulphate, talc, chalk, plaster, and other impurities of all descriptions is forbidden.

SUGAR AND CONFECTIONS.

The word "sugar" is employed to designate the product of the sugar cane or sugar beet. It must not contain more than 5 per cent of reducing sugar. Sirups, confections, marmalades, etc., must not be fermented nor in any way deteriorated, and must not contain any other fruit product than that which is represented to be present, nor any toxic material, such as saccharin, glycerin, oxalic acid, nor such preservatives as boric acid and salicylic acid.

BEER.

Beer must be made exclusively from the malt of barley or other cereals, with the addition of hops, yeast, and water. The sale of beer which has become spoiled or deteriorated from any cause is prohibited. The sale of liqueurs and distilled liquors containing hydrocyanic acid, mineral acids, toxic metals, injurious colors, methyl alcohol, picric acid, gamboge, or medicinal drugs is prohibited.

VINEGAR.

The term "vinegar" is applied exclusively to the fermented product of wine. It must not contain less than 4 per cent of acetic acid, and there must be no addition of coloring matter or other substances. Vinegar obtained by the acetic fermentation of beer, cider, or alcohol may be sold if properly designated "beer vinegar," etc. The sale of vinegar which has become spoiled or deteriorated on account of age is prohibited. No free acids, such as sulphuric, hydrochloric, nitric, oxalic, and tartaric, and no bisulphite must be present.

COFFEE, TEA, AND CHOCOLATE.

The sale of coffee substitutes and adulterated coffee, or coffee colored by injurious substances, is prohibited. Tea must contain no addition of any foreign substance whatever. Chocolate must receive no addition of chalk, ocher, or other mineral matter, or indigestible or injurious vegetable substances.

MEAT AND FISH.

The Italian law requires that prepared meats shall be inclosed in a wrapper on which the kind of animal from which the meat was prepared is plainly stated. It is also required that all meats, blood, etc., used in the preparation of sausage and other meat products must be in a good state of preservation. The mixture with lard of fat from any other source than swine is prohibited.

The addition of coloring matter to fish, mollusks, and crustacea in order to give stale articles a fresh appearance is prohibited.

MUNICIPAL REGULATIONS OF MILAN.

The municipal regulations of Milan prohibit the addition of coloring matter of any kind to foods and beverages which normally are colored. In confections and other foods artificially colored, the coloring matters condemned by the German law are prohibited, and all others except certain specified colors. The addition of salicylic acid to beer is also prohibited.

ROUMANIA.

GENERAL PROVISIONS.

It is forbidden to adulterate food by the addition of foreign materials, by removing characteristic ingredients, or by any change of composition or character whereby the product is made less nutritious, less wholesome, or cheaper. The sale of unripe or decayed fruits or cereals, or of unwholesome food of any kind, is prohibited. The addition of all poisonous substances to food is prohibited, even when such poisonous substance is added in so small an amount as to be ordinarily innocuous. The addition of drugs to food is prohibited, except that materials ordinarily used as foods may be used by druggists for the purpose of preparing medicines in their ordinary forms. The use of injurious coloring materials is prohibited, both as a mixture with foods and in coloring wrappers. The use of poisonous metals, such as lead, zinc, tin containing more than 1 per cent of lead, and tin or copper containing more than 1 per cent of antimony is prohibited.

Tinned receptacles must not be coated with an alloy containing more than 1 per cent of lead or more than 0.01 per cent of arsenic. Glazed earthenware which is intended as a receptacle for food must not contain lead so combined as to be extracted by vinegar. Water used in the preparation of brandy and other alcoholic beverages must be pure, clear, and free from unwholesome ingredients. The use of injurious colors and aromatic essences in the manufacture of brandy is prohibited.

ALCOHOLIC BEVERAGES.

The alcohol used in the preparation of alcoholic beverages must contain none of the first or last distillates, must be free from acetic ether, fusel oil, and furfural. It must contain at least 95 per cent of ethyl alcohol and must answer to the following tests: 10 grams when treated with an equal weight of strong sulphuric acid remains colorless; 10 grams when treated with an equal weight of a solution of potassium hydroxid (specific gravity 1.3) must remain colorless: one volume when thoroughly mixed with five volumes of water must not be turbid or opalescent; from 20 to 25 cc when treated in a porcelain capsule with ten drops of colorless aniline or three drops of concentrated hydrochloric acid must remain colorless. The percentage of fusel oil present must not exceed 0.2 per cent of the absolute alcohol present; that of acetic ether must not exceed 0.02 per cent; that of furfural must not exceed 0.01 per cent.

Alcoholic beverages must not contain an excessive amount of aldehydes, furfural, methyl alcohol, or fusel oil. The addition of aniline derivatives and alkaloids of nitrobenzene, piperine, capsicin, cocaine, ethyl nitrite, ethyl nitrate, ethyl ether, methyl ether, amyl ether, and the ethers of the various capronic and caprylic acids is prohibited.

Aloes, gamboge, jalap, or saccharin must not be added. The use of mineral acids and the compounds of the heavy metals such as lead, copper, and zinc is forbidden. The use of alum and of refuse animal charcoal which has not been purified is forbidden. Alcoholic beverages may be colored only with the following: Turmeric, alcoholic extract of carrots, safranin, safflower, marigold, cochineal, carmin, orseille, sandal red, Brazil wood, mallow, whortleberries, currants, raspberries, cherries, anchusa roots, indigo carmin, caramel, chlorophyl preparations, and litmus. For varying shades mixtures of the above may be employed.

The use of the following colors with alcoholic beverages is prohibited: Aniline colors of all descriptions; colors containing copper, lead, zinc, aluminum, antimony, and arsenic.

The addition of alcohol and the use of sulphurous acid for the purpose of regulating the fermentation in the preparation of distilled beverages is prohibited.

Distilled liquors must have the following alcohol content:

Ordinary brandy from 12 to 35 per cent by volume;

Plum brandy from 20 to 35 per cent by volume;

Cherry brandy from 15 to 40 per cent by volume;

Sweetened liqueurs, crèmes, rosolio, etc., from 15 to 40 per cent by volume;

Cognac from 45 to 70 per cent by volume;

Rum and arak from 45 to 70 per cent by volume.

WINE.

Wine is described as a product of the alcoholic fermentation of grape must, without addition of any description. If the source of the wine is not given it must answer the following description:

The extract content must not be less than 1.4 grams per 100 cc for white wines and 1.7 grams per 100 cc for red wines. Sweet wines and southern dessert wines must contain at least 3 grams of extract per 100 cc.

The minimum limit for ash content is one-tenth that of the extract, viz, 0.14 gram per 100 cc in white wines and 0.17 gram per 100 cc in red wines, while the ash content of southern sweet wines must not be less than 0.3 gram per 100 cc.

The percentage of alcohol must be between 6.5 and 15 per cent by volume. Southern sweet wines must contain from 8 to 20 per cent of alcohol by volume and sparkling wines from 8 to 15 per cent by volume.

The glycerin content must be at least 7 parts by weight for 100 parts of alcohol. Sweet wines must contain sugar in the proportion of 30 per cent for an alcohol content of 15 per cent.

The content of fixed acids must be at least 0.45 gram per 100 cc and the tartaric acid content must be from one-fifth to one-sixth of the fixed acids present. The sodium-chlorid content must not exceed 0.005 gram per 100 cc and the sulphuric acid, calculated as potassium sulphate, must not exceed 0.2 gram per 100 cc.

Sparkling wines must not contain more than 0.05 gram potassium sulphate per 100 cc. Wines must not contain more than 0.0008 gram of free sulphurous acid or less than 0.0035 gram of phosphoric acid (P_2O_5), per 100 cc.

New wines whose fermentation is not completed must contain at least 1.55 gram extract per 100 cc, exclusive of sugar. Wines which

do not come within the standard given above or which contain more than 0.2 gram of acetic acid per 100 cc must not be sold as beverages. The sale of wine prepared from dried raisins and the addition to wine of any substance other than the product of the fresh grapes, except in the manufacture of medicinal preparations, is forbidden.

Wines made by the alcoholic fermentation of dry raisins, of mixtures of raisins with grapes, or of saccharine solutions of any sort other than pure musts, and those treated as follows are held to be adulterated:

The mixing with wines of organic or inorganic acids, or aromatic essences; the addition of glycerin, salicylic acid, boric acid, barium sulphate, strontium, aluminum and magnesium compounds, and of such substances as gum, dextrin, and resin, for the purpose of increasing the extract content.

The addition of the following substances to wine is especially prohibited:

Compounds of aluminum, magnesium, strontium, barium; the sulphites and sulphates of calcium and sodium; free mineral acids, compounds of lead, zinc, tin, copper, and arsenic; mineral colors and aniline colors of all descriptions; glucose, molasses, or crude sugar; crude alcohol; glycerin; boric acid and salicylic acid and their compounds; artificial essences and saccharin; pokeweed berries and juice of the same.

The following methods of treatment are permitted:

The blending of pure wines; neutralization of excessive acidity with calcium carbonate; filtration through pure vegetable charcoal; the use of clarifying agents, such as gelatin, albumin, isinglass, and kaolin; the sulphuring of empty casks by means of pure arsenic-free sulphur; the addition of pure refined spirits to sweet wine in such quantities that the limits given above shall be retained; the addition to sweet wine of refined sugar or glucose in such quantities that the limits given above shall be retained; the washing of casks with refined alcohol before they are filled, provided that the volume of the alcohol so employed does not exceed one-half per cent the volume of the wine manufactured; the addition of pure carbon dioxide in the preparation of carbonated wines; the plastering of red wines, provided that the product does not contain more than 0.2 gram potassium sulphate per 100 cc; the addition of must; and the pasteurizing of wines.

The manipulations mentioned above, however, must not be carried to such an extent that the composition of the wine will be rendered different from the required standards. All manipulations which change the character of the wine and serve to adulterate it are forbidden.

BEER.

Beer must be prepared exclusively from malted barley, hops, yeast, and water, by alcoholic fermentation. If a portion of the barley is replaced by any other material the product must be designated by a name indicating that fact.

Beer may vary in color from dark yellow to clear brown; it must have a characteristic odor and taste and be charged with carbon dioxide. It must contain from 2.5 to 6 per cent of alcohol, from 3.5 to 8 per

cent of extract, from 2.5 to 4.9 per cent of dextrin, and from 0.5 to 3 per cent of maltose.

The original wort from which it was prepared must have had an extract content of at least 9 per cent and the degree of fermentation must be at least 48 per cent. The total acid content must not exceed 0.35 per cent. The acetic-acid content must not exceed 0.06 per cent; the sulphuric-acid content must not exceed 0.2 per cent; the glycerin content must not exceed 0.04 per cent; the ash content must not exceed 0.3 per cent.

The addition to beer of alkaline carbonate for the purpose of neutralizing excessive acidity, of calcium or sodium sulphites, salicylic and boric acids, and similar compounds, is prohibited.

No coloring matter must be added except caramel and that naturally extracted from malt. The addition of saccharin, aromatic essences and extracts, hop substitutes, such as picric acid and its compounds, aloes, and all injurious substances in general, is prohibited.

VINEGAR.

Vinegar is defined as the product of the oxidation of refined alcohol or the fermentation of wine, beer, and the juices of various fruits, or as the mixture of pure concentrated acetic acid with pure water. It must be a clear liquid, free from suspended matter, and may have the color of the material from which it was prepared, varying from bright yellow to red, or it may be colored with pure caramel.

Vinegar must not contain more than 8 per cent of acetic acid nor less than 4 per cent. The manufacture of vinegar from crude alcohol is prohibited.

The addition of the following substances to vinegar is prohibited:

Sodium chlorid; mineral acids; bisulphites; poisonous metals and similar substances, such as lead, copper, zinc, arsenic, and antimony; black pepper, cayenne pepper, or other substances for the purpose of giving a sharp or bitter taste; products of the destructive distillation of wood (acetic acid excepted), such as methyl alcohol, acetone, etc.

CHEESE.

Cheese must contain nothing but the normal casein, proteids, butter fat, milk sugar, and mineral bodies obtained in its preparation from pure milk. Its reaction must be neutral or acid. The sale of cheese manufactured from milk of diseased or improperly fed cows is prohibited. The addition to cheese of any foreign substance, such as alkali, for the purpose of neutralization, foreign animal or vegetable fat, starch, and flour is prohibited. The addition of artificial essences for the purpose of giving a ripe taste to green cheese is prohibited. The addition of injurious colors and of artificial colors in general and of chemical preservatives is prohibited.

BUTTER.

Butter is defined as the product of milk or cream of the cow or buffalo. It is white or yellow in color, of uniform consistency, and contains a small amount of casein, milk sugar, lactic acid, unorganized bodies, etc. Butter must contain at least 82 per cent of fat, and the sale of butter prepared from adulterated milk or the milk of diseased or improperly fed cows is prohibited.

Butter must have the normal taste and odor and be free from rancidity, bitterness, fungi, dirt, etc. The addition of injurious artificial, mineral, or vegetable colors is prohibited. The content of sodium chlorid must not exceed 8 per cent, and the addition of foreign materials, such as starch, flour, and foreign fats is prohibited.

LARD AND TALLOW.

The addition to lard and tallow of foreign materials, such as foreign fat, alum, calcium carbonate, gypsum, sodium carbonate, starch, flour, and the sale of rancid and deteriorated fat are forbidden.

VEGETABLE OILS.

The sale as foods of vegetable oils obtained with the assistance of heat, hot water, steam, or by means of heating the press, or separated by means of such solvents as carbon disulphid, petroleum ether, and benzene, is prohibited. The admixture with olive oil of any other oil, such as sesame, peanut, rape-seed, sunflower, cotton-seed, mineral, and animal oils, is prohibited.

The sale as food of the oil prepared from decayed or fermented olives is prohibited. Table oil must be free from rancidity, and the total acid content must not exceed 1.66 per cent. The following are the requirements as to specific gravity of the oils mentioned:

Rape-seed oil, 0.914 to 0.917; olive oil, 0.915 to 0.918; oleo oil, 0.915 to 0.922; cotton-seed oil, 0.922 to 0.931; sesame oil, 0.923 to 0.924; poppy oil, 0.924 to 0.937; nut oil, 0.925 to 0.927; linseed oil, 0.932 to 0.937.

CEREALS AND FLOUR.

Cereals which are unripe, decayed, or decomposed, covered with fungus, affected by vegetable or animal parasites, or mixed with other varieties of cereals, can not be sold for human food, nor shall flour or meal prepared from the above be sold as food. The sale of a mixture of wheat, rye, barley, or maize flour with leguminous flour or other foreign material, except when properly designated, is forbidden. The ash of cereals and of the flour prepared from the same must have an alkaline reaction. The sale of flour which has deteriorated in any way or which contains more than 18 per cent of water is forbidden. The

sale of wheat flour which contains a mixture of the flour of any other substances, such as rye or barley, is forbidden. The addition of mineral substances, such as calcium carbonate and gypsum, is forbidden.

COFFEE, TEA, COCOA, AND CHOCOLATE.

The adulteration of coffee with any foreign substances, or of coffee from which any ingredient has been extracted, is prohibited. The mixture with coffee of artificial coffee beans or the sale of artificially colored coffee, or of coffee treated with any oil, roasted after the addition of sugar, or which has spoiled or deteriorated in any way, is prohibited. The sale of coffee substitutes may be permitted under some appropriate designation, such as "chicory," "barley coffee," and "fig coffee." These substitutes, however, must be free from injurious substances, and must not contain more than 5 per cent of ash or more than 14 per cent of moisture.

The term "cocoa" must be applied exclusively to the product of the cocoa bean. Cocoa powder, from which a portion of the fat has been removed, may be sold in packages which are so designated as to inform the purchaser of their nature, provided that they shall contain at least 22 per cent of cocoa butter. The term "soluble cocoa" may be applied to the same product when alkalized, provided that it contain not more than 2 per cent of potassium or sodium carbonate. The addition of artificial coloring matter, of foreign starch or fat, or foreign substances of any description, and the sale of cocoa so adulterated are prohibited. The sale of cocoa butter containing an excessive amount of cocoa shells is forbidden.

The term "chocolate" is applied to the product of the cocoa bean which has been mixed with sugar, with or without the addition of such flavoring materials as vanilla, cinnamon, etc. The sale of tea which contains the leaf of any other plant, which contains any foreign substance, or whose nature has been changed by extraction, is forbidden.

SUGAR, HONEY, CONFECTIONS, ETC.

It is forbidden to sell confections in receptacles of poisonous metals, or in receptacles which are tinned or coated with an alloy containing more than 1 per cent of lead, or which have in their composition any metal or glaze which is attacked by the confection or the sirup containing it.

Honey is defined as being the natural product of the bee, and containing from 78 to 92 per cent of invert sugar; from 1 to 3 per cent of cane sugar; from 1 to 2 per cent of proteids; from 0.12 to 0.44 per cent of ash; from 10 to 16.5 per cent of water.

Glucose which is intended for use in manufacturing confections must be commercially pure, and must contain from 88 to 95 per cent of

glucose; from 5 to 12 per cent of water; not more than 0.5 per cent of ash, and must contain no unfermentable matter, preservatives, or other foreign material.

Sugar must not be mixed with grape sugar, ultramarine, or indigo blue to a greater extent than 0.2 per cent; nor with gypsum, barites, kaolin, flour, saccharin, dulcin, or other similar impurities.

Confections must not be mixed with dulcin, with flour, mineral substances, or with those coloring matters which are prohibited in the general regulations regarding artificial colors. They must not be ornamented with flowers, leaves, etc., which contain injurious coloring material nor inclosed in receptacles or wrappers colored with injurious compounds.

The following colors are permitted:

White.—Ground cereal and potato flour.

Yellow.—Carrot, safranin, logwood, marigold.

Red.—Sorrel, madder, cochineal, carmine, red sandalwood.

Green.—Chlorophyl, spinach, and the mixtures of yellow and blue colors that are themselves permissible.

Blue.—Litmus and indigo carmine.

Violet.—Mixtures of blue and red colors that are permissible.

Brown.—Caramel, cocoa beans, licorice.

Black.—Purified bister.

The use of all colors which contain antimony, arsenic, barium compounds, cadmium, chromium, tin, copper, mercury, lead, uranium, zinc, picric acid, and aniline derivatives is prohibited. The use of gilded or silvered bronze or tinfoil which contains tin, lead, zinc, nickel, antimony, or aluminum, is forbidden.

SAUSAGE.

Sausage and other forms of preserved meat must be free from liver, kidneys, lungs, and viscera and consist entirely of the flesh of edible domestic animals, game, and birds put up while fresh.

The preparation of canned and preserved meat products from unsound or unwholesome meat or from the flesh of diseased animals or of other animals than those ordinarily used as food is forbidden. The preparation of canned and preserved fish which has been killed by means of poisonous substances, the manufacture of food products from the same, and the preserving of fish products in oil that is rancid or for any reason not edible, is prohibited. The use of commercial preservatives, such as salicylic acid or boric acid, tannin, alum, sulphurous acid, potassium chlorid, sulphites, glycerin, wood vinegar, impure vinegar, fusel oil, and other unwholesome substances for the preservation of meat or vegetables, is prohibited.

The coloration of preserved vegetables and fruits with mineral and aniline colors is forbidden, as is also the coloration of sausages and preserved meats.

TUNIS.

WINE

Wine is defined as the product of the fermentation of fresh grapes. The product obtained by the fermentation with water of the residuum of fresh grapes (after expression), whether with or without the addition of sugar, and the mixture of this product with wine in whatever proportion, can not be sold unless properly designated on all casks and receptacles and on all books, invoices, bills of lading, etc.

The product of the fermentation with water of dried raisins can not be sold except under the name of raisin wine. The same holds true in the case of mixtures of raisin wine with true wine, whatever may be the proportion.

Any addition of the following substances to wine is considered an adulteration:

1. Any coloring matter whatever.
2. Sulphuric, nitric, hydrochloric, salicylic, boric, or other analogous acids.
3. More than 0.1 gram of sodium chlorid per 100 cc.
4. The product of the fermentation or distillation of figs, locust pods, pimperl flowers, bellflower, rice, barley, and other materials containing sugar.

The casks or receptacles in which plastered wine is placed must be marked with large letters indicating the same. The books, bills of lading, invoices, etc., must contain the same information. The content of potassium sulphate must not exceed 0.2 gram per 100 cc in any case.

SWITZERLAND.

GENERAL PROVISIONS.

Beer must be made exclusively of cereals, either fresh or malted, hops, yeast, and water, by means of mashing and alcohol fermentation. All beer when sold must be clear and not rendered turbid by yeast, bacteria, acetic fermentation, or in any other manner. In the preparation of beer the following are prohibited: Malt and hop substitutes, all coloring matter except that of malt, preservatives such as salicylic acid and boric acid, and saccharin; and the addition of alkalies for the purpose of correcting excessive acidity.

Sulphurous acid must not be present in greater quantities than 0.0014 gram per 100 cc. Beer shall contain more extract than alcohol, and the extract content of the original wort must not be less than 12 per cent. The extract content of the wort is obtained by adding together the extract content of the beer and twice its alcohol content. The degree of fermentation must not be less than 48 per cent, or if less than that amount the reducing substances present, calculated as maltose, must not exceed 3 per cent. The degree of fermentation of the original wort is obtained by the formula $100 \left(1 - \frac{\text{Extract}}{x}\right)$, in which x is the extract of the original wort. The foregoing standards do not apply to the so-called double beers, such as bock beer and salvator beer.

CANTON OF BERNE.

The addition to meat of boric acid, salicylic acid, formalin, sulphites, and all other chemical preservatives, except sodium chlorid and potassium nitrate, is prohibited.

CANTON OF GRAUBÜNDEN.

Meat.—Meat and meat products must have an appetizing appearance, a normal odor and taste, and must not contain any harmful impurities, such as metallic poison, drugs, ptomaines, parasites, etc. The addition of preservatives, with the exception of salt and saltpeter, is forbidden. Sausage must not contain more than 70 per cent of water, and bread crumbs, etc., shall not be added.

Butter and butter fats.—The term “butter” shall be used only with reference to the product of fresh milk and cream, either in the fresh state or the melted fat of the same. The fat content of fresh butter must be at least 82 per cent. Butter shall not form a part of the name of any product containing fat from other sources than pure milk. The sale as food of fat which has become rancid, or has in any way deteriorated, is forbidden.

Flour and meal.—All flour and meal must be so marked as to indicate the grain from which it is prepared. It must be free from mineral impurities, fungi, and weed seeds.

Canned vegetables.—Canned vegetables must not contain over 10 mg of copper salts per 100 grams of fresh food.

Honey.—The term “honey” must be confined to the unmixed product of the bee. It shall not be used either by itself or in combination with other syllables or words to designate adulterated honey or honey substitutes. Such adulterated honey and honey substitutes must be inclosed in receptacles bearing labels on which the term “sirup” appears in distinct type. Also all invoices and shipping receipts of such adulterated goods must be marked with the word “sirup.”

Beer.—The term “beer” must be used only in reference to beer made exclusively from malted barley, hops, yeast, and water, by means of mashing and alcoholic fermentation. In case part of the barley is replaced by some other cereal the same must be plainly stated on the label. Malt and hop substitutes are prohibited. Beer must be clear, wholesome, and free from yeast; the original wort from which it was prepared must have had an extract content of at least 12 per cent. Beers whose degree of fermentation is less than 48 per cent must not contain over 3 per cent of maltose. These regulations do not apply to the so-called double beers, such as bock beer and salvator beer.

The ash content must not exceed 0.3 per cent, and the sulphurous acid content must not exceed 0.004 gram per 100 grams. The presence of boric and salicylic acids in beers is forbidden.

Wines.—The term “wine” shall be applied exclusively to the beverage prepared from the juice of fresh grapes without the addition of

any foreign substances. Wines whose volume has been increased by the addition of any foreign substances, or which are prepared from any other fruits than wine grapes, shall be so labeled as to indicate that fact. The sale of wines which have become sour or deteriorated in any way is forbidden. Wine whose sulphurous acid content, calculated as potassium sulphate, exceeds 0.1 gram per 100 cc shall be designated as "plastered;" if it exceed 0.2 gram per 100 cc it shall be designated as "excessively plastered." Wine must not contain more than 0.002 gram of free sulphurous acid or 0.018 gram of combined sulphurous acid per liter. A higher content of sulphurous acid is considered unwholesome. The addition of preservatives, such as boric and salicylic acids, is prohibited.

The alcohol content of medicinal wines shall not be less than 13 or more than 20 per cent by volume. They shall not contain less than 0.2 gram of ash or more than 0.2 gram of acetic acid, 0.2 gram of potassium sulphate, or 0.002 gram of total sulphurous acid, per 100 cc.

Brandy and liqueurs.—The presence of poisonous metallic compounds, such as copper or lead, and of free mineral acids is prohibited. The alcohol of brandy must not contain more than 0.2 per cent of fusel oil.

Vinegar.—Vinegar must not contain less than 3 per cent of anhydrous acetic acid. The presence of free mineral acid is prohibited. The sale as wine vinegar of vinegar made from any other substance than wine is prohibited.

Receptacles.—All receptacles and wrappers for food must be free from harmful substances. The use of lead foil or of tin foil containing lead is especially prohibited.

Coloring matter.—The addition of artificial colors to meat or meat products, wines and similar beverages, beer, distilled and wood vinegar, coffee, tea, chocolate, condiments, fruit juices, fruit lemonades, and bakers' products supposed to contain eggs is prohibited. The addition to foods of artificial colors which contain harmful substances, such as the following, is prohibited: Antimony, arsenic, barium, lead, cadmium, copper (except that copper salts may be added to canned vegetables in amounts not exceeding 10 mg per 100 grams), chromium, mercury, zinc, and tin. The use of gamboge and injurious aniline colors is also prohibited.

CANTON OF LUCERNE.

The adulteration of foods by extracting from, adding to, or changing in any way that will decrease the value, is prohibited. Only substances may be added which are necessary in preparation, transportation, or preservation, and which do not increase weight or injure quality. The name must not misrepresent place and manner of pro-

duction and manufacture. Food that is unripe, unsound, or for any reason unfit for food must not be sold. Standards for cacao, etc., vinegar, honey, coffee, flour (wheat or rye), milk, must, tea, drinking water, and wine are given.

Beer.—Beer must contain more extract than alcohol, and must be prepared from wort containing not less than 12 per cent of solids. The glycerine content must not exceed 0.4 per cent. Not more than 3 cc of normal alkali shall be required for the neutralization of total acids in 100 grams of beer from which carbon dioxide has been removed by shaking. Not more than 1 cc of normal soda solution shall be required for the neutralization of volatile acids. The content of sulphurous acid must not exceed 0.0014 grams per 100 cc. At least 48 per cent of the original extract of the wort must have been fermented. These standards do not apply to the so-called double beers (bock beer and salvator). Beer which is turbid because of the presence of yeast or bacteria shall not be sold. The addition of unwholesome preservatives, such as calcium bisulphite, and of alkaline substances, such as potash and soda, for the purpose of correcting excessive acidity, is prohibited. The use of so-called beer color (caramel, etc.) is prohibited.

Brandy.—The addition of 15 cc of brandy to an equal volume of distilled water and a few drops of a solution of potassium ferrocyanide should not produce a red-brown precipitate, and the addition of an excess of ammonia must not cause a marked blue color (presence of copper). Brandy must contain no trace of lead or free inorganic acid. The content of fusel oil must not be sufficient to produce a turbidity when the brandy is mixed with 3 volumes of water, or to allow the globules of fusel oil to separate when 1 volume of brandy is mixed with 1 volume of ether and 2 volumes of water. Brandy must contain at least 46 per cent of alcohol by volume, except old brandy, whose alcoholic content may be as low as 44 per cent by volume.

Butter.—Butter must contain no fat except that prepared from milk. Fresh butter must contain at least 82 per cent of butter fat. The word "butter" must not be used, even in combination with other words, to designate articles containing fat from other sources than milk. For instance, such terms as "Kunstbutter" (artificial butter) and "Kübelbutter" (tub butter) are not permitted for articles containing fat from other sources than milk.

Cocoa and cocoa preparations.—Foreign additions to cocoa, such as flour, starch, and spices, and even sugar, must be stated on the outside of each package. The addition of alkaline carbonate not to exceed 2 per cent may be made to the hulled cocoa powder for the purpose of rendering it soluble.

Vinegar.—Vinegar must contain at least 4 per cent of acetic acid. The addition of other acids, of pungent or aromatic substances, and

of aniline colors, is forbidden. Vinegar made by diluting so-called vinegar essence must be designated as "essence vinegar."

Honey.—Only the unsophisticated product of bees can be designated as honey. The word honey can not be used in combination with other words to designate any article other than pure bee honey; for instance, such terms as "table honey" and "Swiss honey" are permitted only for pure honey. All honey substitutes, such as commercial glucose, molasses, and all mixtures of the same with honey, must be so labeled as to inform the purchaser of the exact origin and composition of the contents of the package.

Coffee.—Coffee must not contain more than 4 per cent of ash, except Mocha coffee, which may contain 8 per cent. The use of artificial colors in coffee and the fraudulent mixture of adulterants is prohibited.

Flour.—The ash content shall not exceed 2 per cent for rye flour or $1\frac{1}{2}$ per cent for wheat flour. The water content of wheat and rye flour must not exceed 15 per cent. That of other varieties must not exceed 18 per cent.

Cider.—Fermented cider shall not contain less than 3 per cent of alcohol by volume, 1.5 per cent of extract, or 0.15 per cent of ash.

Wine.—Wine must not contain less than 6.24 per cent of alcohol by volume. The extract content must not be less than 1.5 per cent for red wine or less than 1.4 per cent in white wine. The ash content of wine must be at least 0.15 per cent. By ash content is meant carbonated ash. The percentage of volatile acid expressed as acetic acid must not exceed 0.2 per cent. The sulphuric acid (combined) content, expressed in terms of potassium sulphate, must not exceed 0.2 per cent for medicinal wine and must not exceed 0.1 per cent in dry wines. Wines which contain over 0.008 grams of sulphurous acid per 100 cc must not be sold for consumption without previous cellar manipulation. These restrictions are not applied to sweet or sparkling wines, and apply only to medicinal wines when the latter are specified. The addition of artificial colors is prohibited.

Sausage.—Sausage and any similar preparations must have been prepared exclusively from sound, fresh meat, fat, liver, and blood, with the customary addition of spices. All other additions, such as starchy materials, are considered as adulterants.

CANTON OF ST. GALLS.

All materials intended for food must be so labeled as to inform the purchaser as to their exact nature. The sale of adulterated or unwholesome foods is prohibited. The usual regulations concerning the sale of butter, oleomargarine, lard, etc., are enforced. The so-called St. Gall's sausage (Kalbfleischbratwurst) must not contain more than 2 per cent of added starch or flour. Horse-meat sausage must not contain more than 3 per cent of starch or flour. The sale of cider and

similar preparations made from green fruit is forbidden. The sale of all foods contaminated with poisonous metals, such as zinc and lead, or inclosed in receptacles lined with zinc or lead alloys, is forbidden.

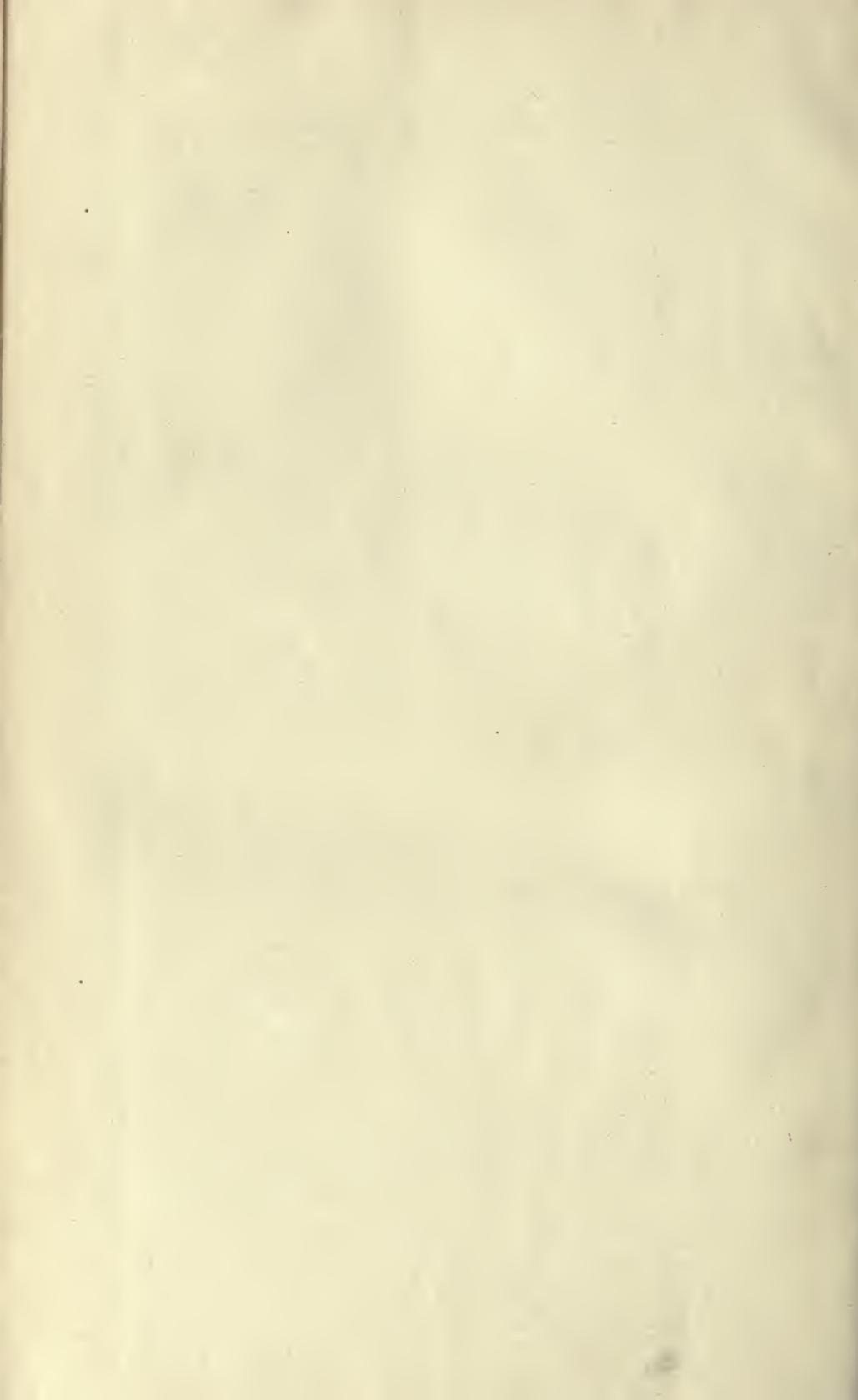
Wine.—Medicinal wines must not contain more than 0.002 gram of total sulphurous acid, more than 0.2 gram of sulphuric acid expressed in terms of potassium sulphate, or more than 0.2 gram of acetic acid per 100 cc. White wines must not contain more than 0.002 gram of free sulphurous acid or more than 0.018 gram of combined sulphurous acid per 100 cc. Wine whose sulphurous-acid content exceeds this limit is considered unwholesome and must be subjected to cellar manipulation before it is sold as a beverage. Wine which has become sour or turbid owing to the acetic-acid fermentation, or which has deteriorated in any other way, must not be sold as a beverage.

Beer.—The addition of alkaline substances for the purpose of neutralizing the excessive acidity of beer is prohibited. The addition to beer of salicylic or boric acid is prohibited. The sulphurous-acid content of beer must not exceed 0.0014 gram per 100 cc. New beer or beer which has become turbid by reason of the presence of yeast cells or bacteria must not be sold as a beverage.

CANTON OF ZURICH.

The addition of all preservatives to meat, except salt and saltpeter, is prohibited.

Coffee substitutes shall be named according to the chief ingredient when possible, as "chicory coffee," "malt coffee," etc. When the product is a mixture of a number of substances, it shall be designated as "Kaffee-surrogate," and either the chief constituents shall be printed on the label or all of the constituents communicated to the board of health.



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