

CHAPTER XX

Corn and Its Products, Including Corn Sugar*

CORN HAS MANY FOOD USES

There are many varieties of corn, but they all have practically the same composition, that is, 73.4 percent carbohydrate, 10 percent protein, and 4.3 percent fat. Both the yellow and white varieties of corn contain vitamins, but the yellow are somewhat richer in vitamin A, the fat-soluble, growth-promoting vitamin.

Like other cereals, corn is valuable in the diet because of the energy which it furnishes. This is about 1,690 calories per pound of whole ripe grain. Due to their low cost and high carbohydrate content, cereals, and especially corn, are an economical source of energy. They are also one of the cheapest sources of protein. As corn differs but little from the other cereals in composition, and is an abundant local crop, it is the most economical of the cereals, especially in the corn belt.

Ripe corn is prepared in many ways for use as a human food. The grain is parched and eaten whole; it is ground to varying degrees of fineness to make hominy, grits, corn meal, corn flour, etc.; it is treated with alkali to remove the skin and germ to make lye hominy or hulled corn; and it is converted by special processes into a variety of prepared breakfast foods. The starch from the corn is separated out and sold as corn starch or converted into corn sugar or syrups. The fat expressed from the germ is used both as a table oil and in cooking. The half-ripe corn, especially of certain sweet varieties, is eaten as a vegetable, either fresh, dried, canned or brined, while the ripe kernels of some other varieties are used for popcorn.

Corn, like other cereals, needs to be supplemented with such foods as milk, eggs, meat, cheese, fruits and vegetables, in order to supply a diet entirely adequate.

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Cornmeal is of two kinds, (1) The usual granular cornmeal has the hull and germ almost entirely removed in the manufacture. The protein content is thus decreased to 9.2 percent, the fat to 1.9 percent and the carbohydrate increased to 75.4 percent. These changes decrease the energy value to 1,615 calories per pound. (2) The "Old Process" cornmeal is manufactured from the whole grain without the removal of the germ and hull, and has the same composition and energy value as whole corn. It is also much richer in flavor than the granular meal, but because of the higher fat content it does not keep as well and should be secured in relatively small quantities. It is usually obtainable only from the local miller. Either kind of cornmeal is used as mush, for breakfast cereal, and to fry. It is used in quick breads, steamed breads, puddings, and in various combinations with meats, cheese and vegetables.

Hominy, grits, samp, and pearl hominy are some of the names given to corn products prepared by the removal of the hull and germ and more or less grinding of the remainder of the grain. In percentage composition and energy value these products resemble the granular cornmeal. They are used like cornmeal in a mush or can be used as vegetables like rice. Lye hominy or hulled corn is a special preparation made by soaking the whole grain in water that contains lye to loosen the hull and germ, removing these and the lye by washing, and then boiling till tender. The lye hominy is used as any coarse hominy.

Cornstarch is manufactured from the corn, and is simply the purified starch from the grain. It is used for thickening puddings, gravies, etc., or combined with flour in some cakes.

Corn oil, which is nearly pure fat is expressed from the germ. In composition and energy value it is like other liquid fats. It is used as a table oil in salad dressings, for shortening, seasoning, and for deep-fat frying.

Corn sugar and corn syrups are the sugar and sugar containing products manufactured from corn starch. The corn sugar is used successfully in cakes, candies, ice creams, breads and other cooked mixtures, and with fruits cereals, etc., for sweetening. The corn syrups are used as syrup

for griddle cakes and waffles, in candies and many other cooked foods.

CORN MEAL RECIPES

CORNMEAL MUSH

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|---------------------------|-------------|
| $\frac{1}{2}$ c. cornmeal | 1 tsp. salt |
| $1\frac{1}{2}$ c. water | |

Moisten meal with a little water. Heat remainder of water to boiling, add salt, stir in cornmeal. This avoids lumping of mush. Cook in double boiler 1 hour or longer.

USES OF CORNMEAL MUSH

1. Serve hot with milk, butter or syrup.
 2. Cool, cut in slices and fry.
 3. Add $\frac{1}{2}$ c. ground cooked meat to 2 c. cornmeal mush.
 4. Add $\frac{1}{2}$ c. grated cheese to 2 c. cornmeal mush.
 5. Add $\frac{1}{2}$ c. tomato sauce and 1 chopped sweet green pepper.
- Note—Grits may be added instead of cornmeal.

SCALLOPED CORNMEAL MUSH

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|------------------|----------------------|
| Cornmeal mush | 1 c. grated cheese |
| 2 c. white sauce | Toasted bread crumbs |

Pour hot mush into a mold wet in cold water. When set, cut into 1-inch cubes. Oil a baking dish, put in a layer of cubes, cover with grated cheese; repeat until all is used, having cheese on top. Cover with white sauce and bread crumbs and brown in a moderate oven.

WHITE SAUCE

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|--------------------------|-------------------------|
| 5 tbsp. butter | 2 c. milk |
| 5 tbsp. flour or 4 scant | $\frac{1}{2}$ tsp. salt |
| tbsp. cornstarch | Few grains of pepper |

Melt the butter in a sauce pan, add flour and seasonings, and stir until well blended. Then pour in gradually while stirring constantly the milk. Bring to the boiling point and boil for 2 minutes.

CORNMEAL SOUFFLE

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|---------------------------|-------------|
| 1 c. water | 1 tsp. salt |
| $\frac{1}{3}$ c. cornmeal | 3 eggs |
| $\frac{1}{2}$ c. milk | 2 tbsp. fat |

Cook cornmeal in double boiler. Add milk, salt, fat and egg yolks beaten thick. Add the whites of eggs beaten stiff, and fold mixture together. Bake in a moderate oven.

POLENTA

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|---------------|--------------------------------|
| 1 c. cornmeal | 3 tbsp. chopped onion |
| 3 c. water | 1 tsp. salt |
| 1 c. tomatoes | $\frac{1}{8}$ tsp. pepper |
| 2 tbsp. fat | $\frac{1}{4}$ c. grated cheese |

Cook the cornmeal in boiling water for 45 minutes. Cook the tomatoes, fat, onion, salt and pepper together. Place a layer of

cornmeal mush in the baking dish. Cover with tomato mixture; add another layer of mush and tomato mixture. Sprinkle grated cheese on top of each layer and bake until cheese is melted.

TAMALE PIE

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|---|--------------------------|
| 1 sweet green pepper | 2 c. tomato sauce |
| $\frac{1}{2}$ c. cornmeal cooked in | 2 c. chopped cooked meat |
| $1\frac{1}{2}$ c. boiling, salted water | 1 tsp. salt |
| $\frac{1}{2}$ c. grated cheese | 1 small onion |

To 1 c. tomato sauce add meat, salt, onion, pepper and cornmeal mush. Put in pan, sprinkle with cheese and bake. Serve with remaining sauce.

Note: 1 c. of brown meat sauce may be substituted for the tomato sauce in the pie.

TOMATO SAUCE

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|-------------------------|--------------------------------|
| 2 tbsp. fat | $\frac{1}{8}$ tsp. pepper |
| 2 tbsp. flour | 1 c. stewed, strained tomatoes |
| $\frac{1}{2}$ tsp. salt | 1 slice onion |

Melt fat, add dry ingredients, blend thoroly and cook. Cook tomatoes with onion, then add mixture gradually to the fat and flour. Cook until thickened.

HOT TAMALES

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|-------------------------|--------------------------------|
| 1 pt. cornmeal | $\frac{1}{2}$ c. chicken broth |
| 2 c. cooked chicken | 2 cloves |
| $\frac{1}{2}$ tsp. salt | 1 bay leaf |
| 1 small onion | Salt and pepper |
| 1 small Spanish pepper | Corn husks |

Add just enough boiling water to the cornmeal and salt to make thick paste. Soak the husks in warm water. Cut the chicken, onion and pepper into small pieces, add the seasonings and the broth and let simmer for a few minutes. If the mixture is watery, thicken with a little corn starch. Spread out two large corn husks, cover the center part of them with a $\frac{1}{4}$ inch layer of the cornmeal. Place 2 tbsp. of the meat mixture in the center, roll with the husks on the outside, tie tightly at the ends, using narrow strips of soaked husks. Trim if necessary, and steam for 1 hour.

SCRAPPLE

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|-----------------|--------------------------|
| 1 lb. lean pork | $1\frac{1}{2}$ tsp. salt |
| 1 qt. water | $\frac{1}{2}$ tsp sage |
| 1 c. cornmeal | |

Cook the pork until quite tender; remove meat, cool broth, skim off fat, heat broth (1 qt.) to the boiling point, stir in the cornmeal and cook two hours. Add seasoned chopped meat and fat. Cook 20 minutes longer. Pour into cold, wet loaf pan. When firm, slice, dip in flour and brown in hot fat.

QUICK CORN BREADS**CORN GRIDDLE-CAKES**

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|----------------------|-----------------------------|
| 2 c. flour | 1½ c. boiling water |
| ½ c. cornmeal | 1¼ c. milk |
| 1½ tbsp. baking soda | 1 egg |
| 1½ tsp. salt | 2 tbsp melted or liquid fat |
| 2 tbsp. sugar | |

Add the meal to the boiling water and boil 5 minutes, cool, add the milk and remaining dry ingredients mixed and sifted, then the egg well beaten and the fat. Cook as other griddle cakes. If the fat is doubled, the mixture can be baked as waffles.

CORNMEAL AND RICE GRIDDLE CAKES

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|---------------|----------------------|
| ½ c. cornmeal | 1 c. sour milk |
| ½ c. flour | 1 c cold boiled rice |
| ½ tsp. soda | 2 eggs |
| 1 tsp. salt | |

Mix dry ingredients together; add sour milk and rice to beaten eggs, stir into the dry ingredients. Fry on hot griddle.

CORNFLOUR WAFFLES

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|----------------------|----------------------|
| 1¾ c. flour | 2 tbsp. fat (melted) |
| ½ tsp. salt | 1½ c. sweet milk |
| 4 tsp. baking powder | 6 tbsp. cornflour |
| 1 egg | |

Sift dry ingredients. Beat egg, add milk and sifted dry ingredients. Add melted fat. Beat well and cook in hot waffle iron.

CORNBREAD

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|------------------------------|--------------|
| 2 c. cornmeal | 1½ tsp. salt |
| 2 c. sour milk or buttermilk | 2 eggs |
| 2 tbsp. fat | 1 tsp. soda |

Sift dry ingredients. Add sour milk, melted fat and beaten eggs. Bake in a moderate oven. If desired, add 2 tbsp. of molasses or corn sugar.

CRACKLING CORNBREAD

Substitute ⅓ to ½ c. of cracklings for the fat in the above cornbread recipe.

CORN MUFFINS

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|----------------------------|-----------------|
| 1 c. cornmeal or cornflour | ¾ tsp. soda |
| 1 c. wheat flour | 1¼ c. sour milk |
| 1 tsp. salt | 2 eggs |
| 1 tbsp. molasses | 1 tbsp. fat |

Sift dry ingredients; add beaten eggs, milk and melted fat. Bake in greased pans 20 to 25 minutes. If desired, bake as cornbread or corn sticks.

SPOON CORN BREAD

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|---------------|-------------|
| 2 c. water | 2 tsp. salt |
| 1 c. milk | 1 tbsp. fat |
| 1 c. cornmeal | 2 eggs |

Mix water and cornmeal, bring to boiling and boil 10 minutes or longer. Cool. Add well beaten eggs and other ingredients. Beat thoroly and bake in greased pan for 20 to 25 minutes in hot oven. Serve from baking dish with spoon.

SOUTHERN CORN PONE

2 c. white cornmeal	4½ tsp. baking powder
1 tsp. salt	1 tbsp melted fat
½ tsp. soda	1 c. sour milk

Sift dry ingredients together, add melted fat and sour milk. Mix well and shape into oblong pones about ½ inch thick. Bake 30 minutes in well greased pan in moderate oven.

SOUTHERN RICE CAKE

1 c. boiled rice	2 c. sour milk
2 eggs	1 c. cornmeal
1 tbsp melted fat	1 tsp. salt
1 tsp soda	

Beat eggs and add other ingredients. Mix thoroly and bake in a moderate oven.

CORNMEAL ROLLS

⅝ c. bread flour	1 tbsp. baking powder
⅜ c. cornmeal	1 tbsp butter or corn oil
¼ tsp. salt	½ c. milk
½ tbsp. sugar	

Sift the dry ingredients together, work in the fat with knives or the fingers, add the milk, and shape like Parker House rolls and bake for about 15 minutes in a hot oven. Brush over with butter or salted corn oil after baking.

STEAMED BROWN BREAD

1½ c. cornmeal	¾ c. Porto Rico molasses
1½ c. graham flour	2 c. sour milk
1 tsp. salt	2 tsp. soda

Sift the dry ingredients together; add sour milk and molasses. One cup raisins may be added if desired. Steam 3 or 4 hours.

Use for Left-Over Quick Cornbread

CHEESE SCALLOP

Cornbread cut in small cubes	Pepper
Grated cheese	Paprika
Salt	

Arrange cornbread and grated cheese in alternate layers in a buttered baking dish; sprinkle each layer with salt, pepper and paprika. Bake in a moderate oven until cheese is melted. Serve at once.

CORNMEAL DESSERTS

INDIAN PUDDING

1 qt. milk	¾ tsp. salt
¼ c. cornmeal	Spices (cinnamon, nutmeg or
½ c. molasses	ginger)

Cook milk and meal in double boiler 20 minutes. Add salt, molasses and spices as desired. Pour into greased baking dish. Bake 2 hours in slow oven, stirring occasionally. Pudding is very thin when done.

Variations: Raisins, dates, figs or dry stewed fruit may be added an hour before taking from oven. The fruit juice if thickened with corn starch and flavored with spice and lemon juice makes an excellent pudding sauce.

CORNMEAL AND APPLE PUDDING

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|---------------|------------------------------|
| 1 c. cornmeal | $\frac{1}{2}$ c. molasses |
| 1 qt. milk | 2 c. apples cored and sliced |
| 1 tsp. ginger | thin |
| 1 tsp. salt | |

Scald the milk and add cornmeal; cook 30 minutes and add salt, ginger and molasses. Pour in a buttered baking dish, bake one hour, stirring occasionally; add apples and bake one hour longer without stirring. Serve with cream or pudding sauce.

USES OF CORN AND HOMINY

BOILED CORN

Free the corn from husks and "silk." Drop the corn into a generous supply of boiling water for 8 to 10 minutes. Overcooking makes the corn tough and tasteless.

DRIED CORN

Scald the ears for 5 minutes, cool and cut the kernels from the cob. Spread the corn on muslin, protect from flies, and let dry. It should be stirred occasionally. When wanted for use, the corn should be rinsed in cold water, soaked for several hours, and then cooked slowly in a small amount of water until tender.

CORN CHOWDER

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|---|---------------------------------------|
| 2 c. fresh cooked or canned corn | $1\frac{1}{2}$ in. cube fat salt pork |
| 4 c. potatoes, cut in $\frac{1}{4}$ -in. slices | 4 c. scalded milk |
| 1 sliced onion | 8 common crackers |
| | 3 tbsp. butter |
| | Salt and pepper |

Cut the pork in small pieces and fry out; add the onion and cook 5 minutes, stirring often that onion may not burn; strain the fat into a stew pan. Boil the potatoes 5 minutes in boiling water to cover; add them, together with 1 c. of boiling water, to the fat, cook till soft, add the cooked corn and milk and heat to the boiling point. Season with salt and pepper, add the butter and the crackers split and soaked in enough cold milk to moisten.

SUCCOTASH

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|---------------------------|-------------|
| 2 c. cooked corn | Pepper |
| 2 c. boiled shelled beans | 2 tbsp. fat |
| $\frac{3}{4}$ tsp. salt | |

Add the corn, salt and pepper to the boiled shelled beans; cook 10 minutes; add the fat and serve.

SCALLOPED CORN AND CELERY

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| 2 c. canned corn (or grated pulp) | 1 tsp. salt |
| 1 c. finely chopped celery | 1 tbsp. chopped green pepper |
| 1 c. toasted bread crumbs | 2 tbsp. fat |
| | $\frac{1}{2}$ c. hot milk |

Arrange corn, pepper and celery in alternate layers in a baking dish. Add fat to hot milk and pour over the vegetables. Cover with toasted crumbs and bake 20 minutes.

CORN RELISH

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|----------------------------|----------------------------|
| 1½ doz. ears corn | 2 qts. vinegar |
| 1 small cabbage | 2 c. sugar |
| 1 bunch celery | 1 c. flour |
| 4 onions | $\frac{1}{2}$ c. salt |
| 2 green peppers | $\frac{1}{2}$ tsp. mustard |
| $\frac{1}{4}$ tsp. cayenne | |

Cut the corn from the cob. Grind the cabbage. Separate the celery stalks, remove the leaves and chop. Peel the onions and cut into thin slices. Wipe the peppers and chop them. Put all the vegetables into a preserving kettle and add half of the vinegar. Mix the dry ingredients and add the remaining vinegar to them. Combine the mixtures, bring to the boiling point and let simmer for 40 minutes. Fill glass jars and seal.

GREEN CORN CUSTARD

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|-------------------------|----------------------------|
| 1 c. cooked corn | $\frac{1}{8}$ tsp. paprika |
| 3 eggs | A few drops of onion juice |
| $\frac{1}{2}$ tsp. salt | 1½ c. milk (scalded) |

Beat the eggs slightly and add the other ingredients. Bake in buttered molds, surrounded by water.

HOMINY—CRACKED

Pick over, wash thoroly and soak in cold water, to cover. Stir into boiling salted water, having twice as much water as hominy, and cook 10 minutes; then cook several hours (until soft) in double boiler.

LYE HOMINY

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|-------------------|-------------------------------|
| 5 ounces lye | 5 qts. corn (white preferred) |
| 6 qts. cold water | 5 tbsp. salt |

Dissolve the lye in the cold water and stir in the corn. Let stand for 15 hours. If the hulls are not loose enough to rub off easily, boil for a few minutes to finish loosening them. Wash thoroly in running water to remove the lye, and then rub the hulls off. This can be done quite easily in a cloth bag. Wash off the loose hulls and black tips. To remove the discoloration caused by the lye, soak over night in slightly salted water, or boil for a short time in salt water. Rinse again, cover with water, add the salt, and boil in a covered kettle for 3 or 4 hours (till tender). Changing the water two or three times during cooking will lessen the taste of the lye.

PLAIN COOKED HOMINY

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|--------------------------|---------------------------|
| 2 c. home-made hominy or | 1 tsp. salt |
| cooked cracked hominy | $\frac{1}{4}$ tsp. pepper |
| 2 tbsp. fat | |

Heat thoroly and serve. One-half cup of milk or 1 c. of chopped meat may be added.

HOMINY BAKED WITH CHEESE

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|--------------------------------|-----------------------|
| 2 c. cooked hominy | Pepper |
| $\frac{1}{2}$ c. grated cheese | 1 c. thin white sauce |
| Salt | Toasted crumbs |

Place in baking dish alternate layers of cooked hominy and cheese. Season with salt and pepper. Pour over white sauce, sprinkle with toasted crumbs and bake.

USES OF CORN OIL

MAYONNAISE DRESSING

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|----------------------------|---------------------------------|
| $\frac{3}{4}$ tsp. salt | 2 egg yolks |
| Few grains of cayenne or | 2 tbsp. lemon juice |
| paprika | 2 tbsp. vinegar |
| $\frac{1}{2}$ tsp. mustard | $1\frac{1}{2}$ to 2 c. corn oil |
| 1 tsp. powdered sugar | |

Mix the dry ingredients in a bowl which fits the beater. Add the egg yolks and beat until the yolks are well thickened, then gradually beat in the lemon juice and vinegar, using a dover beater. Add $\frac{1}{2}$ tbsp. of oil and beat 2 minutes. Then add the oil 1 tbsp. at a time, beating thoroly between additions. Toward the last the oil may be poured in slowly. Add oil until the mixture is stiff enough to hang from the beater. Keep cold in a covered glass jar. If a less rich dressing is desired, the above made mayonnaise may be thoroly mixed with a thick starch paste. To make the starch paste, add $1\frac{1}{2}$ c. of boiling water to a mixture of $3\frac{1}{2}$ tbsp. of cornstarch, $1\frac{1}{2}$ tsp. of salt and 2 tbsp. of cold water. Boil the starch paste for 5 minutes and cool before combining with the mayonnaise.

FRENCH DRESSING

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|---------------------------|----------------------------|
| $\frac{1}{2}$ c. corn oil | $\frac{1}{2}$ tsp. mustard |
| 2 tbsp. vinegar | $\frac{1}{2}$ tsp. paprika |
| 2 tbsp. lemon juice | 1 tsp. powdered sugar |
| $\frac{3}{4}$ tsp. salt | Few grains cayenne pepper |

In a deep cup or small bowl beat the dry ingredients with vinegar and lemon juice. Add the oil, beating vigorously, until the consistency of thick cream. Use immediately, as the emulsion breaks quickly.

If the ingredients are put into a bottle and shaken vigorously for several minutes, a good emulsion will result. This may be kept in refrigerator for later use and thoroly shaken when wanted.

Various substances can be added to the French Dressing to give variety, such as, 1 tsp. parsley, 2 tbsp. grated cheese, 2

tbsp. chopped pickle, 1 tbsp. tomato catsup, or 4 tbsp of orange marmalade.

BOILED DRESSING

1 tsp. salt	2 egg yolks or 1 egg
1 tsp. mustard	2 tbsp. corn oil
2 tbsp. sugar	$\frac{3}{4}$ c. water
2 tbsp. flour	$\frac{1}{4}$ c. mild vinegar

Mix the dry ingredients. Beat the egg well, add the vinegar diluted with water and beat thoroly. Combine with the dry ingredients. Cook in a double boiler, stirring constantly, until thick. Add the oil. The addition of $\frac{1}{2}$ c. of sour cream improves the flavor.

FOR FRYING PURPOSES

Corn oil is excellent for all kinds of frying, especially deep-fat frying, because it does not smoke as readily as the solid fats and also because less of it adheres to the cooked product.

USES OF CORN SYRUP

CORN SYRUP TAFFY

1 c. brown sugar	1 tbsp. lemon juice
$\frac{1}{2}$ c. white corn syrup	$\frac{1}{2}$ tsp. lemon flavoring
$1\frac{1}{2}$ tbsp. corn oil	

Cook the sugar, syrup, oil and lemon juice until it forms a hard ball in cold water. Pour into a pan oiled with corn oil, and pull when cold.

POPCORN BALLS

Pop the corn and remove the unpopped grains. To 1 c. of dark corn syrup add 1 tbsp. of vinegar and boil until it hardens when dropped into cold water. While still very hot, stir into it the popped corn. As soon as cool enough to handle, rub the hands with corn oil and form the mass into balls.

PROPERTIES OF CORN SUGAR

Corn sugar is somewhat different from cane sugar in its chemical and physical properties and so failures often result in attempts to substitute it wholly or in part for cane sugar in food preparations. If its properties are kept in mind, it can be used *very successfully* in part or wholly in a large number of foods, and *can easily take the place* of about one-fourth of the sugar used in the average home.

Pound for pound the food value of corn sugar is practically equal to that of cane, but corn sugar is only four-fifths as heavy as cane sugar and so the volume (measure) used must be increased one-fourth, or $1\frac{1}{4}$ cups corn sugar equals the weight of 1 cup cane sugar. It is rated from

one-half to three-fourths as sweet as cane sugar, so for equal sweetening the volume should be about doubled.

In recipes in which the amount of sugar is large, and where the texture and sweetness of the finished product are of prime importance, it is not desirable to use complete substitution, but successful results can be obtained from partial substitution of corn sugar for the cane sugar when used according to directions.

In cakes made with fat and in doughnuts 25 to 50 percent corn sugar can be used successfully when either sour milk is substituted for the sweet milk or where a little lemon juice or other acids added. These materials will offset any alkalinity in the cake mixture. When corn sugar is heated with a mild alkali, such as hard water or sweet milk, the product tends to become dark in color and a slightly bitter flavor is developed, the more so the higher the temperature or the longer the heating. This can be overcome as suggested above by the addition of a mild acid.

Corn sugar caramelizes at a lower temperature than cane sugar and so is unsatisfactory for brittles. In preparations using small amounts of sugar for sweetening, such as breads, griddle cakes and waffles, the corn sugar is preferable because the product browns more readily.

In caramels, fudge and fondant about 20 percent corn sugar can be substituted for cane sugar and in ice cream and other frozen mixtures about 60 percent can be used.

CORN SUGAR FACTS IN A NUTSHELL

- (1) It is a healthful and nutritious food which may be used freely in the diet.
- (2) It weighs four-fifths as much as cane sugar.
- (3) Its sweetness is generally rated between *one-half* and *three-fourths* that of cane sugar.
- (4) Where sweetness is not the essential and in recipes where small quantities of sugar are used it is preferable to cane or beet sugar.
- (5) Where brown color is an advantage, as in gravies, baked beans, griddle cakes and waffles, it is preferable to cane or beet sugar.

- (6) It caramelizes at a lower temperature than cane sugar and therefore is not satisfactory in brittles.
- (7) In cakes made with fat and in doughnuts, 25 to 50 percent of corn sugar can be used successfully if certain precautions are taken.
- (8) In cooked products, acids such as lemon juice, vinegar or sour milk, should be used because with hard water and heat alone, a dark colored, bitter substance is produced, which renders the product unpalatable.
- (9) Batters made with corn sugar *must be stiffer* than those made with cane sugar; therefore, the liquid is decreased one-fourth to one-half.
- (10) In frozen mixtures, 60 percent of corn sugar may be used successfully, but if the mixture is a frozen custard, the corn sugar should not be added until the custard is cool.
- (11) In canned fruits, corn sugar is preferable to cane sugar because it does not mask the delicate fruit flavors.
- (12) In cooked products, 100 percent corn sugar is not as successful as 25 to 50 percent.
- (13) It can easily take the place of about one-fourth of the sugar used in the average home.

Recipes in Which Corn Sugar Is Used

In the following tested recipes the special properties of corn sugar have been considered. The products are quite as satisfactory as when cane sugar only is used in their preparation.

Corn sugar may be used for sweetening coffee, cereals and fresh fruits in the same manner as cane sugar.

GRIDDLE CAKES, WAFFLES ETC.

If a little corn sugar is used in griddle cakes, waffles and other breads, they will brown more rapidly without making the product too sweet.

GRAVIES

Corn sugar may be added to gravies to insure browning where desired.

BAKED BEANS

Use 1 tbsp. of corn sugar for every 1 c. of dry beans when preparing baked beans. Add the sugar just before baking. If soda is used in boiling the beans, be sure to wash off all soda before adding the corn sugar, or the beans will become bitter.

PLAIN CAKE (50 percent corn sugar)

$\frac{1}{2}$ c. fat	$\frac{1}{2}$ c. sour milk
1 scant c. corn sugar	2 eggs
$\frac{3}{4}$ c. granulated sugar	3 c. flour
4 tsp. baking powder	1 tsp. flavoring
$\frac{1}{2}$ tsp. salt	

Cream the butter, add the sugar gradually and eggs well beaten. Mix and sift the remaining dry ingredients and add alternately with the milk to the first mixture. The batter will be much stiffer than for the ordinary cake. Bake as usual either as loaf or in layers.

The measure of corn sugar used is slightly more than the cane sugar used because it is lighter in weight and less sweet.

If you prefer using your favorite recipes, remember to decrease the amount of liquid called for by $\frac{1}{4}$ when substituting corn sugar for $\frac{1}{2}$ the cane sugar, and that the results are better when sour milk without soda is used instead of the sweet milk usually called for.

PLAIN CAKE (25 percent corn sugar)

$\frac{1}{2}$ c. fat	$\frac{1}{2}$ tsp. salt
$\frac{1}{2}$ c., scant, corn sugar	$\frac{3}{4}$ c. sour milk
$1\frac{1}{8}$ c. granulated sugar	2 eggs
4 tsp. baking powder	1 tsp. flavoring
3 c. flour	

Mix and bake as directed under Plain Cake (50 percent corn sugar).

DOUGHNUTS (50 percent corn sugar)

$\frac{1}{2}$ c. granulated sugar	2 tbsp baking powder
$\frac{3}{8}$ c. corn sugar	$\frac{1}{8}$ tsp. nutmeg
2 eggs	1 tsp. salt
1 c. sour milk	flour, 5 c., or enough to make a
2 tbsp. melted butter	soft dough that will roll

Mix the ingredients in the order given, roll, cut, fry and drain.

SPONGE CAKE

The results of using corn sugar in sponge cake have not been entirely satisfactory.

GINGER BREAD

2 c. flour	$\frac{1}{4}$ tsp. salt
$\frac{1}{3}$ c. corn sugar	1 c. sorghum
2 tsp. ginger	$\frac{1}{2}$ c. sour milk
$\frac{1}{4}$ tsp. cinnamon, cloves, each	1 egg
$\frac{3}{4}$ tsp. soda	$\frac{1}{4}$ c. fat

Mix and bake in the usual manner.

INDIAN PUDDING

1 qt. scalded milk	$\frac{5}{8}$ c. corn sugar
5 tbsp. granulated Indian meal	1 tsp. salt
2 tbsp. butter	$\frac{3}{4}$ tsp. cinnamon
$\frac{1}{2}$ c. molasses	2 eggs
	1 c. cold milk

Add meal gradually, while stirring constantly, to scalded milk and cook in double boiler 15 minutes; then add butter, molasses, seasonings and eggs, well beaten. Turn into a buttered pudding dish and pour on cold milk. Bake in a moderate oven one hour. Serve with or without vanilla ice cream.

OATMEAL NUT COOKIES

4 tbsp. butter	$1\frac{1}{2}$ c. flour
3 tbsp. lard	1 tsp. salt
$\frac{3}{4}$ c. corn sugar	1 tsp. baking powder
$\frac{5}{8}$ c. cane sugar	$\frac{3}{4}$ tsp. cinnamon
1 egg	$\frac{1}{2}$ tsp. cloves
5 tbsp. sour milk	$\frac{1}{2}$ tsp. allspice
$1\frac{3}{4}$ c. rolled oats	$\frac{1}{2}$ c. nuts
$\frac{1}{2}$ c. raisins	

Cream, butter and lard together and add gradually, while beating constantly, sugar; then add egg, well beaten, milk, rolled oats, raisins (seeded and cut in pieces) and nut meats, chopped. Mix and sift flour with remaining ingredients and add to first mixture. Drop from tip of spoon on a buttered sheet, 1 inch apart, and bake in a moderate oven 15 minutes.

CHOCOLATE CAKE

$1\frac{1}{2}$ c. flour	$\frac{1}{3}$ tsp. salt
$\frac{3}{4}$ c. cane sugar	1 c. thick sour milk
$\frac{3}{8}$ c. corn sugar	1 egg
1 tsp. soda	$\frac{1}{2}$ c. powdered chocolate or cocoa
3 tbsp. liquid or melted fat	

Sift dry ingredients into a bowl, add milk and egg (slightly beaten) and beat thoroly. Add chocolate or cocoa and fat, beat thoroly and bake in greased tin and in moderate oven 30-45 minutes.

SPICE CAKE

$\frac{1}{2}$ c. fat	1 tbsp. boiling water
1 c. brown sugar	1 c. sour milk
$\frac{5}{8}$ c. corn sugar	3 c. flour
4 egg yolks	$\frac{1}{2}$ tsp. salt
1 tsp. cloves, nutmeg and cinnamon, each	4 tsp. baking powder

Mix as for plain cake and bake in loaf or layer.

HONEY HERMITS

3¼ c. flour	1 tsp. salt
½ c. corn sugar	1 c. chopped raisins
⅝ c. strained honey	1½ tsp. cinnamon
⅓ c. fat	½ tsp. cloves
2 eggs	3 tsp. baking powder
½ c. sour milk	

Mix strained honey and melted fat. Add eggs, milk, salt, raisins. Sift in mixed and sifted dry ingredients. Beat well and drop on greased pan. Bake in a quick oven until brown.

APPLE SAUCE CAKE

½ c. cane sugar	2 tsp. soda
⅝ c. corn sugar	2 tsp. melted chocolate
½ c. melted butter	2 tsp. corn starch
1½ c. unsweetened apple sauce	½ tsp. cinnamon
1 c. chopped nuts	½ tsp. cloves
1 c. raisins	½ tsp. allspice
2 c. flour	½ tsp. nutmeg

Mix and bake in loaf in moderate oven. The chocolate may be omitted if desired.

CONFECTIONS

FUDGE

1 tbsp. butter	⅞ c. granulated sugar
1 square chocolate	⅛ c. corn sugar
⅓ c. water or milk	

Mix the ingredients and cook slowly while stirring until the sugar is dissolved. Cook until a portion tested in cold water forms a rather firm ball. Cool until just warm to the hands and then beat.

FONDANT

⅓ c. corn sugar	⅓ c. water (soft or distilled water preferable)
⅞ c. cane sugar	

Dissolve the sugar in the water, boil to soft ball state, cool and beat as usual.

DIVINITY

¾ c. granulated sugar	Pinch of salt
⅜ c. corn sugar	1 egg white
⅓ c. water	

Mix the sugar, water and salt and cook until the syrup will form a thread 2 inches long or to a firm ball. Stir in the beaten egg white and beat until it is stiff and will keep its shape.

FROZEN DESSERTS

ORANGE AND LEMON ICE

4 c. water (soft water pre- ferable)	1 c. cane sugar
1½ c. corn sugar	1½ c. orange juice
	½ c. lemon juice

Grated rind of 1 orange and 1 lemon may be added. Make syrup, cool, add fruit juices, grated rind, strain and freeze.

VANILLA ICE CREAM

2 c. scalded milk	$\frac{1}{8}$ tsp. salt
2 tsp. corn starch	2 tbsp. vanilla extract
$\frac{1}{3}$ c. cane sugar	$1\frac{1}{3}$ c. corn sugar
1 egg	1 qt. thin cream

Make a custard as usual, but do not add the corn sugar and vanilla until after the custard has cooled. Freeze in the usual manner.

1 c. blanched, browned and chopped almonds may be added if desired. Further variations may be made by the addition of fruits, nuts, chocolate, caramel, grapenuts, etc., to this recipe.

JELLIES

Corn sugar can be used in fruit jellies in place of $\frac{1}{2}$ of the cane sugar. Use $1\frac{1}{4}$ c. corn sugar for each 1 c. cane sugar omitted.

If the jelly is not to be used immediately, it must be sealed air-tight with paraffin because on exposure to the air the corn sugar tends to crystallize out.

FRUITS, STEWED AND CANNED

Use $1\frac{1}{4}$ c. corn sugar for each 1 c. cane sugar ordinarily used in stewed or canned fruits. If the products are not as sweet as desired, more corn sugar or some cane sugar can be added, but in such case at least 5 minutes boiling after the addition is necessary for sterilization.

YEAST BREADS

Corn sugar can replace the cane sugar in yeast breads as it furnishes immediate food for the yeast cells, thereby hastening the action.