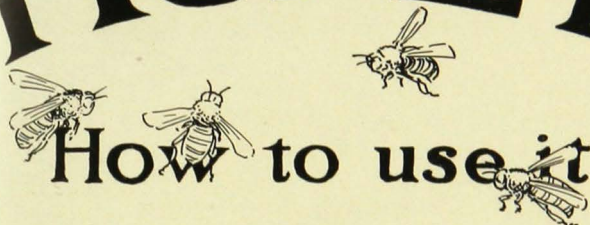
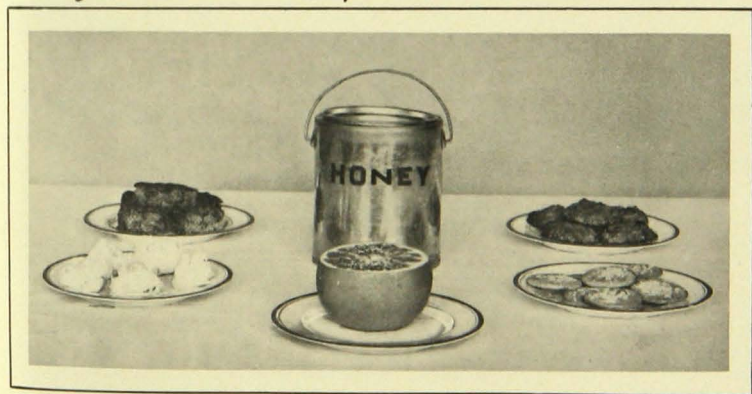


# HONEY



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**H**ONEY has many uses in cookery. The purpose of this bulletin is to give directions and suggestions for its selection, care, and use.

### **VARIETY OF HONEY DEPENDS ON SOURCE**

The flavor and aroma of honey are influenced by the blossoms from which the nectar is gathered. Honey is designated by the flavor that predominates.

The common types of honey in Minnesota are alfalfa, clover, basswood, and buckwheat. Alfalfa honey is usually white and has a pleasant spicy flavor. Clover honey is white or light straw color with an agreeable mild flavor. Basswood honey is white. The flavor varies from mild to strong aromatic. Buckwheat honey is dark and of strong flavor.

### **SEVERAL FORMS OF HONEY AVAILABLE**

Honey is usually sold as either comb or extracted honey. Comb honey is contained in the cells of the comb. Extracted honey has been separated from the uncrushed comb by centrifugal force or gravity. In bulk comb honey, cut pieces of comb honey are put into the can and the can is then filled with extracted honey. Cut comb honey is used for individual servings. Before wrapping, the honey is drained from the cut cells.

Honey may be either liquid or granulated. Some varieties, such as alfalfa, granulate much more readily than others. All honey granulates more quickly after it is removed from the comb. Granulation in extracted honey is the best evidence of purity. Granulated honey is sometimes sold on the market in paper cartons.

### **HOW TO LIQUEFY GRANULATED HONEY**

To liquefy granulated honey, place the jar in warm water, or put the honey in the top of a double boiler. The temperature of the honey should be kept below the boiling point, as a temperature above 140 degrees Fahrenheit changes the flavor, aroma, and color.

Comb honey is graded as to finish of the sections, color of the honey, and weight. The net weight must be marked on each section of honey that enters interstate trade. Sections usually weigh from 12 to 15 ounces.

### **STORE IN WARM, DRY PLACE**

Unless honey is sealed it should be kept in a dry place, as it may absorb moisture. Diluted honey will ferment and sour readily.

As honey crystallizes at a low temperature, it should be stored in a warm place and not in a refrigerator or other cold place. Sudden changes in temperature should be avoided.

### WHAT IS IN HONEY

Honey is eaten principally for the sugar it contains and for its delicate flavor. The sugars are largely the simple sugars, glucose and fructose. This is the form into which cane sugar is changed in digestion, therefore honey is readily digested.

In addition to sugars, honey contains water and a small amount of the minerals, calcium, phosphorus, sodium, potassium, and iron.

As far as we know, the amount of vitamin in honey is of no practical importance. There is no Vitamin A in strained honey but there is in comb honey. There is a small but negligible amount of Vitamin B, but no Vitamin C.

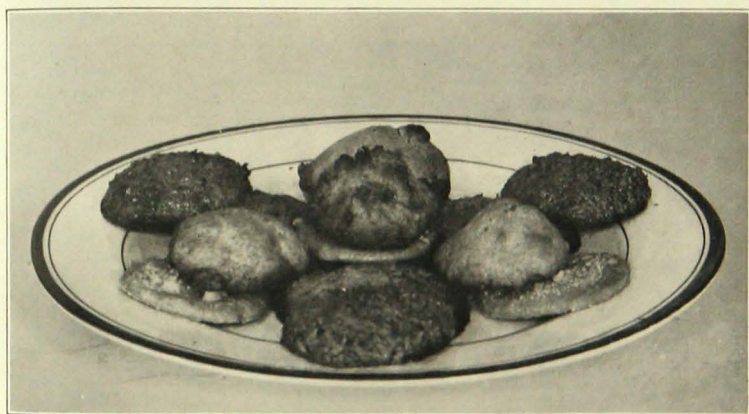


Fig. 1. Honey Cookies

#### Composition of Honey\*

|                    | Per cent |
|--------------------|----------|
| Water .....        | 17.70    |
| Invert sugar ..... | 74.98    |
| Sucrose .....      | 1.90     |
| Ash .....          | .18      |
| Dextrin .....      | 1.51     |
| Undetermined ..... | 3.73     |

\* Browne, Chemical analysis and composition of American honeys. U. S. Dept. Agr. Bur. Chem. Bull. 110.

### Acidity of Honey

Experimental work has proved the acidity of honey to be so slight that it can be disregarded, and the amount of soda needed to neutralize it is so small that baking powder can be used as the leavening agent in honey products.

## HOW TO SUBSTITUTE HONEY FOR MOLASSES AND SUGAR

### Honey for Molasses

For each cup of molasses in a recipe use one cup of honey, and omit the soda. For each teaspoon of soda use 4 teaspoons of baking powder.

#### Molasses Gingerbread:

|               |                |     |       |     |          |      |                  |      |                                       |
|---------------|----------------|-----|-------|-----|----------|------|------------------|------|---------------------------------------|
| Sweet<br>milk | Bread<br>flour | Fat | Sugar | Egg | Molasses | Soda | Baking<br>powder | Salt | Spices                                |
| 1c            | 2¾c            | ¼c  | ½c    | 1   | 1c       | ½t   | 3t               | ½t   | 1t ginger<br>½t cloves<br>½t cinnamon |

For honey gingerbread use 1 cup of honey in place of the 1 cup of molasses. As honey and molasses both contain liquid, the amount of liquid need not be changed. Omit the ½ teaspoon of soda and add 2 teaspoons of baking powder. Add ¼ teaspoon of salt. The other ingredients are the same as in molasses gingerbread. The following proportions result.

#### Honey Gingerbread:

|               |                |     |       |     |       |                  |      |                                       |
|---------------|----------------|-----|-------|-----|-------|------------------|------|---------------------------------------|
| Sweet<br>milk | Bread<br>flour | Fat | Sugar | Egg | Honey | Baking<br>powder | Salt | Spices                                |
| 1c            | 2¾c            | ¼c  | ½c    | 1   | 1c    | 5t               | ¾t   | 1t ginger<br>½t cloves<br>½t cinnamon |

Sift dry ingredients. Combine milk, honey, beaten egg, and melted fat, and add the mixture to the dry ingredients. Mix thoroly. Bake in a sheet in a moderate oven (325 degrees, Fahrenheit) for 60 minutes.

### Honey for Sugar

One cup of honey will sweeten a product as much as a cup of white sugar.

To insure a good product, about half the sugar should be retained in a recipe and honey substituted for the other half.

### Liquid in Honey

Each cup of honey is about 20 per cent water, therefore the amount of milk or other liquid called for in a recipe should be reduced. For each cup of honey used, reduce the liquid ¼ cup, or 4 tablespoons.

#### Plain One-Egg Cake:

|      |                |       |     |     |                  |      |         |
|------|----------------|-------|-----|-----|------------------|------|---------|
| Milk | Bread<br>flour | Sugar | Fat | Egg | Baking<br>powder | Salt | Vanilla |
| 1c   | 2¼c            | 1½c   | ¼c  | 1   | 3t               | ½t   | 1t      |

#### Honey One-Egg Cake:

|      |                |       |       |     |     |                  |      |         |
|------|----------------|-------|-------|-----|-----|------------------|------|---------|
| Milk | Bread<br>flour | Sugar | Honey | Fat | Egg | Baking<br>powder | Salt | Vanilla |
| ¾c   | 2¼c            | ½c    | ½c    | ¼c  | 1   | 3t               | ½t   | 1t      |

If substituting honey for sugar in cake, reduce liquid ¼ cup. Reduce sugar ⅛ cup and use ½ cup sugar and ½ cup honey.

## SUGGESTIONS FOR USE OF HONEY

Honey may be used as:

A substitute for sugar or molasses in baking cake, muffins, cookies, waffles, griddle cakes, or gingerbread. Honey products do not dry out as readily as sugar products.

A substitute for part of the sugar in taffy, fudge, divinity, and popcorn balls.

A substitute for part of the sugar in preserved fruits, fruit sauces, conserves, jams, and jellies.

A spread for bread, hot baking powder biscuits, or muffins instead of jam or jelly

On breakfast cereals, especially oatmeal.

Sweetening for such fruits as grapefruit.

Syrup for lemonade and other drinks.

Sandwich fillings.

Recipes for Using Honey<sup>1</sup>

The picture on page 1 shows several products in which honey was used, and Figure 1 shows a plate of cookies in which honey was used.

Abbreviations used in recipes:

t = teaspoon

tb = tablespoon

c = cup

All measurements are level.

## Honey Almond Cookies:

| Flour | Honey | Sugar | Fat | Eggs | Grated rind<br>from lemon | Salt | Baking<br>powder | Blanched<br>almonds |
|-------|-------|-------|-----|------|---------------------------|------|------------------|---------------------|
| 3c    | ½c    | ¾c    | ½c  | 2    | 1                         | ½t   | 4t               | ½c                  |

Cream the fat and sugar thoroly. Add one egg and one egg yolk beaten together, honey, lemon rind, and flour sifted with the baking powder and salt. The dough should be stiff enough to be easily handled. Roll thin and cut. Place on an oiled pan. Beat one egg white slightly, and brush it over the top of the cookies in the pan, then sprinkle with finely chopped blanched almonds and granulated sugar. Bake in a hot oven (425 degrees Fahrenheit) for 10 minutes.

## Honey Date Strips:

| Honey | Flour | Eggs | Baking<br>powder | Vanilla | Nuts | Dates | Salt |
|-------|-------|------|------------------|---------|------|-------|------|
| 1c    | 1½c   | 3    | 1t               | 1t      | 1c   | 1c    | 1t   |

Mix honey and well beaten eggs. Add sifted dry ingredients, chopped dates, and nuts. Place mixture in a flat pan, ¼ inch thick. Bake in a moderate oven (325 degrees Fahrenheit) for 20 minutes. Cut in strips 3 inches by ½ inch. Place in a covered crock. Roll in powdered sugar before serving.

## Honey Ice-Box Cookies:

| Flour | Fat | Honey | Sugar | Egg | Salt | Vanilla | Baking<br>powder |
|-------|-----|-------|-------|-----|------|---------|------------------|
| 3c    | ½c  | ½c    | ½c    | 1   | ¼t   | 1t      | 2t               |

<sup>1</sup>The recipes in this bulletin were worked out by students of Experimental Cookery. Special work was done by Georgiana O'Reilly, Beulah Stephens, and Alice Peyton. The honey was furnished by the Division of Bee Culture.

Cream fat, sugar, and honey. Add beaten egg, sifted dry ingredients, and flavoring. Mix well. Form into a smooth roll about  $2\frac{1}{2}$  inches in diameter. Place in ice-box or cold place over night. With a sharp knife cut cookie roll in as thin slices as possible (about  $\frac{1}{8}$  inch). Bake in a hot oven (425 degrees Fahrenheit) for 8 minutes.

The cookie roll may be covered with waxed paper and kept in the ice-box for a week or more and cookies baked as needed.

### Honey Bran Drop Cookies:

|                 |                 |                 |        |      |                 |  |
|-----------------|-----------------|-----------------|--------|------|-----------------|--|
| Honey           | Flour           | Bran            | Butter | Eggs | Soda            | Flavoring  |
| $\frac{1}{2}$ c | $\frac{1}{2}$ c | $\frac{1}{2}$ c | 2tb    | 2    | $\frac{1}{4}$ t | $\frac{1}{4}$ t anise seed<br>or<br>$\frac{1}{2}$ t cinnamon |

Cream butter and honey well. And eggs and beat thoroly. Add dry ingredients and mix well. Drop from a teaspoon on an oiled cookie sheet, two inches apart. Bake in a moderate oven (350 degrees Fahrenheit) from 12 to 15 minutes.

### Honey Oatmeal Cookies:

|                |                  |      |       |                 |      |                 |                  |                 |               |         |
|----------------|------------------|------|-------|-----------------|------|-----------------|------------------|-----------------|---------------|---------|
| Rolled<br>oats | Flour            | Milk | Honey | Fat             | Eggs | Salt            | Baking<br>powder | Soda            | Cin-<br>namon | Raisins |
| 2c             | $2\frac{1}{2}$ c | 2tb  | 1c    | $\frac{3}{4}$ c | 2    | $\frac{1}{2}$ t | 1t               | $\frac{1}{2}$ t | 1t            | 1c      |

Cream the fat and honey together. Add oatmeal and sifted dry ingredients and milk. Mix well. Drop from teaspoon on an oiled pan. Bake in a moderate oven (350 degrees Fahrenheit) from 18 to 20 minutes.

### Honey Chocolate Cake:

|                 |                 |                  |                 |                 |                 |     |                 |      |                         |      |         |
|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----|-----------------|------|-------------------------|------|---------|
| Water           | Sour<br>milk    | Flour            | Sugar           | Honey           | Fat             | Egg | Salt            | Soda | Baking Choco-<br>powder | late | Vanilla |
| $\frac{1}{4}$ c | $\frac{1}{2}$ c | $2\frac{1}{2}$ c | $\frac{1}{2}$ c | $\frac{3}{4}$ c | $\frac{1}{2}$ c | 1   | $\frac{1}{2}$ t | 1t   | 1t                      | 2sq  | 1t      |

Cream sugar, fat, and honey thoroly. Add egg yolk well beaten, then melted chocolate. Add sifted dry ingredients and liquid alternately. Fold in egg white beaten until stiff. Add vanilla. Bake at a temperature of 370 degrees Fahrenheit for 40 minutes.

### Honey Frosting (Boiled):

|       |       |                 |           |         |                 |
|-------|-------|-----------------|-----------|---------|-----------------|
| Sugar | Honey | Water           | Egg white | Vanilla | Salt            |
| 1c    | 1tb   | $\frac{1}{2}$ c | 1         | 1t      | $\frac{1}{8}$ t |

Cook sugar, honey, salt, and water to 234 degrees Fahrenheit. Remove from fire, and slowly pour syrup over stiffly beaten egg white. Add flavoring and beat with beater until thick enough to spread on cake.

### Honey Frosting (Uncooked):

|                 |                |        |                 |             |                 |
|-----------------|----------------|--------|-----------------|-------------|-----------------|
| Honey           | Powdered sugar | Butter | Nuts            | Lemon juice | Salt            |
| $\frac{1}{4}$ c | 1c             | 1tb    | $\frac{1}{4}$ c | 2t          | $\frac{1}{8}$ t |

Cream butter, add powdered sugar and salt. Cream well. Add honey and lemon juice.

Or, mix honey, powdered sugar, salt, and lemon juice. Add melted butter and mix thoroly.

### Honey Frosting with Cocoa:

|                 |                   |        |       |                 |             |                 |
|-----------------|-------------------|--------|-------|-----------------|-------------|-----------------|
| Honey           | Powdered<br>sugar | Butter | Cocoa | Salt            | Lemon juice | Nuts            |
| $\frac{1}{2}$ c | 1c                | 2tb    | 3tb   | $\frac{1}{8}$ t | 2t          | $\frac{1}{4}$ c |

Mix sugar, cocoa, and salt. Add honey slowly, then lemon juice and melted butter. Mix until creamy, then add nuts.

**Honey Oatmeal Muffins:**

|      |       |         |     |     |       |      |        |      |
|------|-------|---------|-----|-----|-------|------|--------|------|
|      | Bread |         |     |     |       |      | Baking |      |
| Milk | flour | Oatmeal | Egg | Fat | Honey | Salt | powder | Nuts |
| 1c   | 1½c   | 1½c     | 1   | 2tb | 1c    | ½t   | 3t     | ½c   |

Mix dry ingredients, add milk, beaten egg, honey, and melted fat (slightly cooled). Mix but do not beat. Place in greased muffin pans. Bake in a hot oven (400 degrees Fahrenheit) for 30 minutes.

**Honey Bacon Muffins:**

|      |       |     |       |       |      |        |       |
|------|-------|-----|-------|-------|------|--------|-------|
|      |       |     | Bacon |       |      | Baking |       |
| Milk | Flour | Egg | fat   | Honey | Salt | powder | Bacon |
| 1c   | 2c    | 1   | 2tb   | 2tb   | ¼t   | 3t     | ½c    |

Mix as for Honey Oatmeal Muffins.

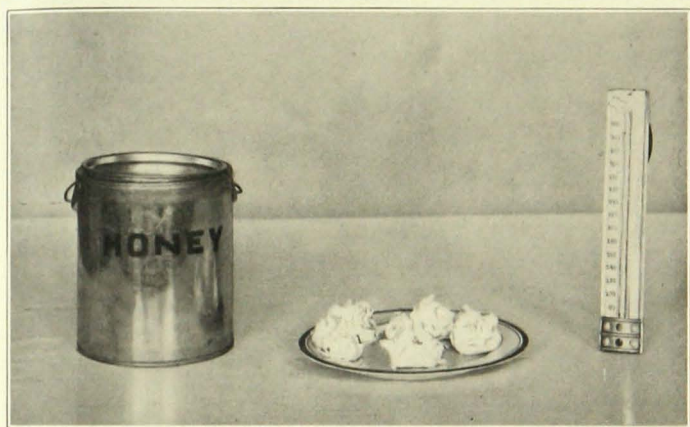


Fig. 2. Honey Divinity

The thermometer was used to insure a satisfactory product

**Honey Syrup:**

|       |       |
|-------|-------|
| Honey | Water |
| 1c    | ¼c    |

Mix honey and hot water and heat to just below the boiling point. This syrup may be used for breakfast cereals, griddle cakes, waffles, or cornbread.

Honey may be melted and served hot on griddle cakes or waffles.

**Honey Divinity (See Fig. 2.):**

|       |          |       |       |      |        |       |          |
|-------|----------|-------|-------|------|--------|-------|----------|
|       | Cream of |       |       |      | Egg    | Anise |          |
| Sugar | tartar   | Honey | Water | Salt | whites | seed  | Cocoanut |
| 2c    | ½t       | ¼c    | ¼c    | ½t   | 2      | ½t    | ½c       |

Boil water, honey, and sugar to hair stage (hair 4 inches long) at 238 degrees Fahrenheit. Pour over stiffly beaten egg whites, beating constantly. When stiff enough to hold its shape, add cocoanut and flavoring. Drop by spoonfuls on waxed paper or pour on buttered pan and cut in squares.

Nuts, candied cherries, or pineapple may be added.

**Honey Taffy:**

|       |       |       |        |         |
|-------|-------|-------|--------|---------|
| Sugar | Honey | Water | Butter | Vanilla |
| 1½c   | ½c    | ¾c    | 2t     | ½t      |

Heat honey, sugar, and water, stirring until sugar is dissolved. Cook until mixture is brittle (278 degrees Fahrenheit), then add butter and vanilla. Pour on oiled pan. Cool until it can be handled. Pull until porous. Cut in one-inch pieces.

#### Honey Cracker Jack or Pop-Corn Balls:

|          |                 |                 |        |         |                 |                 |
|----------|-----------------|-----------------|--------|---------|-----------------|-----------------|
| Pop corn | Honey           | Sugar           | Butter | Vinegar | Salt            | Vanilla         |
| 1qt      | $\frac{1}{2}$ c | $\frac{1}{2}$ c | 1tb    | 1t      | $\frac{1}{2}$ t | $\frac{1}{4}$ t |

Cook together honey, sugar, salt, and vinegar until it is brittle when dropped in cold water, or to 278 degrees Fahrenheit. Add butter and vanilla. Pour hot syrup over pop-corn, mix well, and pack in pan to depth of one inch. Cut in squares or form in balls with the hands.

#### Apples in Honey:

|       |                 |                 |                 |
|-------|-----------------|-----------------|-----------------|
| Honey | Vinegar         | Water           | Cinnamon        |
| 1c    | $\frac{1}{4}$ c | $\frac{1}{4}$ c | $\frac{1}{4}$ t |

Core whole apples or cut in quarter sections, leaving skins on. Cook in honey and vinegar mixture until they become transparent. If syrup is thin, boil down and pour over apples.

If red apples are desired, add to the syrup 6 cinnamon candies for each apple.

These apples may be served with ham or other meats. If a dessert is desired, use water in place of vinegar.

#### Sandwich Fillings

**Cheese and Honey.**—Add just enough honey to either cottage cheese or cream cheese to spread easily.

**Crystallized Honey and Nuts.**—To 1 cup of crystallized honey add  $\frac{1}{4}$  cup of finely chopped or ground nuts. Use on rye or graham bread.

**Peanut Butter and Honey.**—Mix equal parts of peanut butter and crystallized honey.