

Let's Eat: Exploring food science

Product Development: Buckeye Pretzels

How might you make a better Buckeye?

Standard Laboratory Operating Procedure #711

Buckeye Pretzels

Laboratory: Science and Technology of Foods

Location: Food Science Lab

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Background

The Ohio Buckeye is our state symbol and our state tree. The buckeye tree is known throughout Ohio for many reasons and folklore states they are good luck to carry with you. Although buckeyes themselves are toxic, a famous dessert that emulates the appearance of a buckeye is immensely popular in Ohio.

When making new products, identifying an audience is paramount. The buckeye candy is common to eat however it leaves chocolate on your hands and is inconvenient to carry to gatherings. This product will be easier to eat on the go and to take to tailgates! What other advantages might a product like this have over traditional buckeye candy?

Soybean oil can be used when tempering chocolate: adding lipids assists with the sheen of the final product and helps to create a smoother consistency into which pretzels may be dipped.

Safety: hot gloves

Materials

190 grams ($\frac{3}{4}$ cup) peanut butter
330 grams (3 cups) confectioners sugar
115 grams ($\frac{1}{2}$ cup) butter
1.5 mL ($\frac{1}{4}$ tsp) vanilla
pretzel rods
500 mL beaker
large bowl
spoon
wax paper
cookie sheet
double boiler set up (water bath with small beaker to hold chocolate)
1 bag Ghirardelli® melting chocolate (milk chocolate)
15 mL (1 tbs) Plenish High Oleic oil
hot gloves

Procedure

1. Place butter in the beaker.
2. Melt butter on low heat on the hot plate.
3. Mix melted butter, peanut butter, vanilla and confectioners sugar in a large bowl to form a paste.
4. Coat pretzel rod in the peanut butter mixture until the desired thickness and place on wax paper lined cookie sheet.
5. Place in the blast chiller until firm.
6. Melt chocolate in a double boiler setup on a hotplate: place a 500mL beaker with 15mL of high oleic oil and chocolate in a hot water bath. An alternative is to microwave, stirring every 30 seconds until smooth.

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7. Dip pretzel rod to coat several times then return to cookie sheet.
8. Place cookie sheet back into the blast chiller.
9. Remove from chiller and place in plastic sleeve to vacuum seal.
10. Place label on the package.

Peanut Free Alternative

Instead of using peanut butter, make a caramel sauce using the following procedure

Materials

57 grams (¼ cup) white sugar
50 grams (¼ cup) brown sugar
40 grams (⅛ cup) corn syrup
15 mL (⅛ cup) water
14.2 grams (1 tablespoon) butter
80 ml (⅓ cup) heavy cream
1.4 g (¼ tsp) salt
1.5 ml (¼ tsp) vanilla
stirrer: wood spoon/spatula
candy thermometer
hot plate
hot mitt
600 mL beaker
1000 mL beaker

Procedure

1. In the smaller beaker, add the butter, heavy cream, and salt. Warm the mixture until the butter dissolves – do not boil. Set mixture aside
2. Measure the sugar, corn syrup, and water into the large 1000mL beaker. Stir to form a smooth paste.
3. Heat sugar mixture over medium heat until the mixture starts to boil. Insert the candy thermometer and continue heating, while stirring, until the mixture just reaches 250°F (120°C).
4. Remove the beaker from the heat. Slowly, while stirring, add the cream mixture to the sugar mixture. CAUTION: The mixture will foam.
5. Return the beaker to the heat source and heat, while stirring, until the mixture reaches 250°F (120°C). Note: The mixture will foam during the heating. You may have to stir faster OR stop stirring for the foam to subside. Also, the mixture will maintain a temperature between 220° to 230°F (105° to 110°C) for a while during the heating process. This allows some of the excess water to boil off.
6. When the mixture reaches 250°F (120°C), remove the beaker from the heat and add the vanilla. Stir well.
7. Carefully dip your pretzel rod into the caramel and chill before dipping into the chocolate.

References

Torres, Jacques, (1997). *Dessert Circus: Extraordinary Desserts You Can Make at Home*. William Morrow Cookbooks.

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