

## Maple Marshmallow (3:2 Ratio<sup>1</sup>) Recipe

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### *Ingredients*

12 (30 g) Silver Gelatin Sheets<sup>2</sup>  
330 g Granulated Maple Sugar  
328 g Inverted Dark Maple Syrup<sup>3</sup>  
118 g (½ cup) Water  
Pinch of salt (optional)  
Powdered Maple Sugar<sup>4</sup>



<sup>1</sup>For a **1:1 ratio**, use 273 g granulated maple sugar, and 408 g inverted maple syrup.

<sup>2</sup>To substitute powdered gelatin, use 1 packet for every 4 gelatin sheets (Joachim and Schloss, n.d.). Knox brand powdered gelatin has an approximate Bloom strength of 225 and contains about 7 g of gelatin per packet. Bloom strength and g per packet varies by manufacturer.

<sup>3</sup>To fully invert maple syrup, add 1 tsp of invertase per gallon of syrup. For rapid conversion, hold maple syrup with invertase at 120 – 150 °F for 24 hours. Where time is not a factor, stir the solution thoroughly and store at room temperature for 3 - 5 days.

<sup>4</sup>Basic instructions for Powdered Maple Sugar are provided at the end of this recipe.

### *Directions*

1. Submerge gelatin sheets in cold water until softened (10 - 15 minutes).
2. While gelatin is rehydrating, use a neutral-flavored oil to lightly coat two 8" x 8" baking pans, plastic wrap to cover the marshmallows while they set, and a rubber spatula. Remove excess oil with a paper towel.
3. Squeeze rehydrated gelatin sheets to remove excess water, and place them into a double boiler. Heat on low until the gelatin is liquid (2 - 3 minutes), taking care not to overheat.
4. Transfer liquid gelatin into a stand mixer with whisk attachment. Gelatin will gel as it cools and liquefy again as the hot syrup is added to the stand mixer.
5. In a medium saucepan, add the granulated maple sugar, inverted maple syrup, water, and salt. Heat to 245 °F. Immediately remove from heat and allow to cool to <200 °F.
6. Once the syrup has cooled, turn the stand mixer on low. Slowly add the cooled syrup to the gelatin by pouring it down the side of the mixing bowl. Be careful not to allow hot syrup to hit the moving whisk attachment as it can spatter and cause burns.
7. Increase stand mixer speed to high and continue to mix for 10 – 12 minutes.

8. Working quickly, use the rubber spatula to deposit the marshmallow mixture into the baking pans and spread evenly. Gently cover and press the oiled plastic wrap onto the exposed surface of the marshmallow to avoid formation of a crust. Allow the marshmallows to set at room temperature for 6 – 24 hours.
9. Coat a cutting board with Powdered Maple Sugar. Use lightly oiled hands to release the edges of the marshmallow from the baking pan onto the cutting board. Using a lightly oiled knife, cut the marshmallows into squares.
10. As each marshmallow is cut, coat completely with Powdered Maple Sugar. Shake excess powdered sugar off of the marshmallows using sifter.
11. Store marshmallows in an air-tight container for up to 3 weeks.

*Recipe makes approximately 725 g.*

### ***Basic Instructions for Powdered Maple Sugar***

To make 1 cup of powdered maple sugar with 3 % cornstarch, combine 194 g (~1 cup) finely ground maple sugar with 6 g (~1 tbsp) cornstarch in a bowl. Mix thoroughly with a whisk. To grind sugar, use a coffee or spice grinder, blender, or melanger. A melanger is a stone grinder that can uniformly grind particles to 10 - 20 microns. It is most often used for chocolate and nut butter production. More information on equipment and techniques for grinding sugar can be found in the Powdered Maple Sugar fact sheet. Sugar crystals should be ground until the powdered sugar dissolves readily on the tongue with no detectable crystals. To quickly discern how much cornstarch to add for a 3 % cornstarch powdered sugar, weigh the powdered maple sugar in grams and multiply the value by 0.03. The resulting value is the grams of cornstarch to add to the sugar. This method for calculating cornstarch addition rates is accurate for small batches of powdered sugar.

To comply with the physical granulation size requirements set by the United States Department of Agriculture (USDA), powdered sugar must be sifted through No. 100 or No. 200 U.S. Standard No. sieve sizes (USDA, 2015). Store the sieved powdered sugar in a glass jar or other high moisture barrier container.

Large-scale production of powdered sugar can be hazardous due to the combustible nature of sugar dust. These instructions are only intended for production of small batches of powdered sugar. Promptly clean any surfaces that may become coated with sugar dust.



*Granulated maple sugar before (left) and after (right) grinding to a powder using a melanger.*