



## Sipple Sugar Maker



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## **SIPPLE SUGAR MAKER INSTRUCTIONS**

The pan or “pig”, furnished with the machine will hold 2 to 2 ¼ gallons of syrup. Boil syrup to a temperature of about 32° above the boiling point of water. This temperature can be raised or lowered as your experience demands.

Remove the pig from the heat and allow it to cool in air to about 170° Fahrenheit. To hasten cooling you may cool in water to 200° and then cool in air to 170°. Do not cool in water to 170° or it will be too cold on the outside edge and bottom of the pig and too hot in the center. The temperature at which the syrup is cooled is more important to the consistency of the sugar than the temperature to which it is boiled. The colder the syrup, the finer the grain.

Place the pig on the tilting table and raise the table. The pig then serves as a hopper and syrup can be fed into the mixing trough as needed. Open the gate on the end of the pan and allow a very small stream of syrup (about the size of a match stick) to flow into the trough. Start the mixer and wait until the syrup is moved down to the outlet end of the trough and until it starts to crystallize. The mixture can then be drawn off into the molds.

This machine is designed to operate continuously; syrup runs in one end, is stirred and is drawn off the other end all at the same time until the entire batch is finished. However, a great deal of practice is necessary before you will become an expert at running it. Best results are obtained if the amount of syrup in the trough at any one time is kept to a minimum, never more than a cupful. If you get too much syrup in the trough when starting, it will be very difficult to get it drawn out into the molds before it sets up. Also, in the middle of the run, too much syrup cools too slowly and makes a coarse grained sugar. The sugar should have a grain not much different from maple cream.

If the amount in the trough is small and it sets up too quickly it can be softened up by drawing syrup a little faster for a short time. As soon as the sugar begins to move easily, slow down the flow of syrup again or it will make a grainy sugar.

If too much crystal forms in the syrup when it is cooling and you are sure it is not caused by excessive agitation from moving the pan around, it may be because the invert content of the syrup is too low. This can be corrected by adding 1 to 1 ½ level teaspoons of Crème of Tarter to a gallon of syrup before it is boiled. Since this amount is less than one percent it is not considered an additive and the sugar can still be called “PURE” maple.

The most important requirement needed to make fine grained, uniform textured candy is practice and experience.

## **TESTING FOR INVERT SUGAR**

Because the amount of invert sugar in maple syrup affects its suitability for making maple cream, it is sometimes desirable to evaluate the invert sugar content of syrup. There is no simple test that will accurately measure the exact amount of invert sugar in a sample of syrup. For years, however, maple producers have used a modification of the *Clinitest*<sup>®</sup><sub>1</sub> urine sugar test to classify syrups into two categories, those containing less than 2% invert sugar and those containing more than 3% invert sugar. The test is made by first preparing a syrup-water mixture (1 part of syrup to 20 parts of water) and then color testing the diluted syrup. It can be performed in 3 or 4 minutes.

The few pieces of equipment required to make the tests can be obtained from a local pharmacy, the following items are required:

1. *Clinitest*<sup>®</sup> tablets obtainable at a pharmacy.
2. Two medicine droppers.
3. A test tube, about ½ inch in diameter and 3 or 4 inches long.
4. A sample of the syrup to be tested (a cupful).
5. One medicine glass, calibrated in ounces.
6. One glass measuring cup, calibrated in ounces.
7. Test tube holder.
8. Two 8-ounce, clean and dry drinking glasses.
9. One, 1-quart glass fruit jar and cover.
10. Water (20 fluid ounces).

### **MAKING THE TEST**

1. Carefully pour enough of the test syrup into a medicine glass to bring the level of the syrup exactly to the 1-ounce (2 tablespoons) mark. If too much (more than 1 ounce) is added, empty the syrup out of the medicine glass, wash and dry it and start over.
2. Measure 2 ½ cups of water and transfer it to the quart jar.
3. Make the 1 to 20 dilution by pouring the fluid ounce of syrup into the jar containing the 2 ½ cups (20 fluid ounces) of water.
4. Pour some of the water-syrup mixture into the medicine glass and return it to the jar. Repeat this three or four times to be sure that all the syrup has been transferred to the water in the jar. Mix the contents of the jar thoroughly by stirring with a spoon or with a portable electric mixer.
5. Place the test tube upright in the holder. (The holder can be a 1-inch thick block of wood, 2 inches square with a 7/16-inch hole ¾-inch deep.

6. Fill a clear, dry medicine dropper with the diluted (1:20) syrup in the fruit jar. Hold the dropper upright above the test tube and let 5 drops of the diluted syrup fall into the test tube.
7. Fill another clean and dry medicine dropper with water and add 10 drops of water to the test tube.
8. Place a *Clinitest*<sup>®</sup><sub>1</sub> tablet, freshly removed from the bottle or wrapper, in the test tube. As the tablet dissolves, it causes the contents of the tube to boil. Do not remove the tube from the holder while the solution is boiling.
9. Fifteen seconds after the boiling stops, add water to the test tube until it is two-thirds full.
10. Observe the color of the solution in a room illuminated with an incandescent bulb. The colors are not easily judged by fluorescent light or direct sunlight. Disregard the colored chart values provided with the test. For this test, blue indicates the syrup contains less than 2 percent of invert sugar and can be used to make cream; yellow or yellow green indicates the syrup contains more than 3 percent of invert sugar and may not be suitable for making cream.

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1. Clinitest is a registered trade mark of Miles Inc. Diagnostics Division, Elkhart, IN 46515 USA.

This article is a direct reprint from the North American Maple Syrup Producers Manual. This manual is available through the Leader Evaporator Co. Inc. catalog:

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