

***Apis m. Esoteria* 34**

Inverted Sugar, Invert, Invertase

"Simple syrup"

What is it and why should we feed it to our Honeybees.?

You might already be doing it and don't know it!

It goes by all the above names. Most common "simple syrup" is used by home cooks and bar tenders to sweeten stuff. Bakers and gourmet cooks might make it and reduce it (heat it on simmer until it thickens) with a little lemon or orange flavor to perk up a recipe. Inverting the sugar in the syrup is supposed to make it taste sweeter.

Is not honey sweeter than sucrose sugar? Yes, by 25% more sweet.

Inverted sugar is sucrose sugar that is mixed to 2:1 ratio of Sugar to Water. It is then heated to about 170° to dissolve it in the water. For pastry use, it is then thickened to a syrup that is stringy.

So, you make your 2:1 winter syrup like that. Good. But do not use just straight hot tap water (usually only 140° at best) to dissolve your sugar. Bring your water up until it is "steaming". It does not need to boil. There is a chemical reaction that takes place at 170°. Sucrose (table sugar) is glucose and fructose molecules bonded together. The heat breaks the molecular bond creating a syrup of free ranging glucose and fructose.

Honeybees consume glucose and fructose. Nectar is mostly glucose and fructose. By heating your syrup, you are creating a feed that is more natural and more easily consumed by the bees. It is easier for the bees to digest than unprocessed sucrose or high fructose corn syrup.

You can add a little citric acid (lemon juice) to the syrup to extend the shelf life. Acetic acid (vinegar) will also work. You can add 1/8th cup of bleach per gallon of syrup to also keep it from fermenting and retard algae growth. Bees love bleach. Have you ever seen them drinking swimming pool water?