

rich enough vinegar for two or three families, even if only a few hundred pounds of honey have been uncapped. In a large apiary, the cappings are first drained through the uncapping-can in a warm room until they seem perfectly dry, and even then several barrels of sweet liquid can be secured from the washings of the cappings of fifteen or twenty thousands pounds of honey. We figure that each thousand pounds of honey extracted gives us about 15 pounds of beeswax from the cappings, and, perhaps, five gallons of sweet water, fit to make good vinegar. So the apiarist should never render his beeswax till it has been thoroughly washed.

Vinegar which will not sour may lack two or three things which are all needed. Sufficient warmth, as stated above. If all other requirements are right, it will still be impossible for vinegar to sour if the weather is cool. A good place to keep a gallon of vinegar is right behind the kitchen stove. In a few days a jug full of mild vinegar will become very sour. Do not cork it tight, but cover the mouth with a cork. A wide-mouthed jar covered with a cloth is still better.

Air, that is, oxygen, is needed. The making of vinegar is simply the oxidizing of the sugar contained in the liquid. No change may take place unless the air is, or has been, supplied. For that reason the vineyardist keeps his barrels of wine full, and bunged tightly so that no air may reach the wine. If, perchance, a barrel remains open, he soon has a barrel of vinegar, instead of a barrel of wine, and the better the wine has been, the better the vinegar will be.

Sufficient sweetness is needed. If the directions I give are followed, a good article of vinegar will be produced. If you want to put the honey by weight, put not less than two pounds of honey for each gallon of water. A less quantity may make fair vinegar,

but it is much easier to weaken your vinegar if too strong, by the addition of a little water when you wish to use it, than to strengthen it by adding more honey after it is partly made.

A very good inducement for any sweet or alcoholic liquid to turn to vinegar is the addition to the liquid of what is called "vinegar-mother," the viscous, ropy matter which is usually found in a barrel of good vinegar. This "vinegar-mother" contains the principal ingredients that go to make vinegar, and although it is practically degenerated vinegar, yet it will add strength to the vinegar very promptly.

So, if you happen to have some old vinegar that has been long standing, you soon strengthen your new vinegar by adding a little of this "mother." Do not listen to those who say that this is a disgusting looking residue. It looks no worse than an oyster does. Vinegar containing this residue is sure to be pure and wholesome. Vinegar made from chemicals does not contain any "mother," neither does it contain any living organism.

The more air the vinegar gets at the proper temperatures the quicker the vinegar is made. Manufacturers of first-class wine vinegar in Europe often drain their vinegar through a barrel full of shavings slowly, drop by drop, so as to give it a good chance to air. In this way the best vinegar is made.

If you have no fruit juices to add to your vinegar, a little cider will help to give it a start.—C P. Dadant, in American Bee Journal.

To find from which colony an after-swarm came, J. Georges gives this in L'Abelle Alpine: Early next morning, before bees are flying, take a hundred or more bees of the swarm, shut them in a tumbler with some flour, tumble them about till they are well floured, then free them and run to the apiary to see which hive they enter. — "Stray Straw" from "Gleanings."