# the map of maple: off-flavors

| | | | |
|---|---|---|---|
| mother nature | | sour sap | ropey appearance<br>citrus, soy sauce, fermented aromas<br>sour taste<br>thick, chunky mouthfeel |
| | | metabolism | chocolaty, grassy aroma<br>lack of maple flavor<br>cardboard, popcorn, peanut butter flavors<br>dry mouthfeel |
| | | buddy | chocolaty aroma and flavors<br>lingering aftertaste |
| defoamer | | safflower and vegetable oils | vegetable aroma and flavor<br>oily, waxy mouthfeel |
| | | canola oil | spicy, peppery flavors<br>walnut, pungent finish<br>astringent mouthfeel |
| processing | burnt | scorch | burnt flavors (coffee, dark chocolate)<br>thick body |
| | | niter | burnt flavors (coffee, dark chocolate)<br>leathery, spicy meat flavor<br>chalky, gritty mouthfeel |
| | storage | fermented | yeasty alcohol aroma<br>honey, fruity, spicy (soy sauce), vegetable flavors<br>thin body<br>foamy appearance (severe fermentation)<br>effervescent mouthfeel |
| | | metallic | tin can aroma<br>strong metallic flavor (affects back tongue and teeth) |
| chemicals | | minerals / niter | fizzy, gritty mouthfeel |
| | | chloride | salty taste |
| | | acid / basic | acid or caustic odor (depending on chemical)<br>pungent, burning sensations |
| others | | musty / mold | moldy, yeasty, vegetable aromas and flavors<br>lingering finish (affects back tongue and throat) |
| | | detergents | perfumy, floral aromas<br>soapy flavor |
| | | lubricants / fuels | petroleum aroma and flavor<br>oily mouthfeel<br>astringent finish |

▲ filters — these defects could stem from misuse or mishandling of syrup filters

## tasting maple syrup

The flavor and overall sensory quality of maple syrup can be influenced by multiple factors. Outside the sugarhouse, these include environmental conditions, location, and time in the season; inside the sugarhouse these include method of production, as well as filter and packaging conditions. This sensitivity makes the flavor of maple syrup susceptible to flavors not considered "typical."

This tool is meant to identify off-flavors in syrup, and link the particular sensory experience to a specific defect and category that explains why the defect has occurred. Additionally, this tool serves as a user-friendly representation of the Vermont Agency of Agriculture Farms and Markets (VAAFM) "Maple Syrup Off-Flavors" manual.

The descriptors on the right describe the aroma, taste and/or mouthfeel of the defective syrup (ex. "chocolaty aroma and flavors, lingering aftertaste"), paired on the middle column with the specific cause of defect (ex. "buddy"). The defects are then grouped by type of defect (example: "mother-nature") in order to better identify off-flavors, and to trouble-shoot future batches. The triangle in the lower left corner denotes a defect linked to misuse or mishandling of filters.

## sampling your syrup

**Smell** the syrup before tasting, note any atypical smells. Consult the list of descriptors to match any atypical aromas to their potential causes listed on the left.

**Taste** the syrup, note of the taste and the mouthfeel. Repeat the process described above.

**Evaluate** the syrup. If the troubleshooting guide indicates, address any issues with filters or processing equipment.


**the taste of Vermont**

A team of researchers, sugarmakers and sensory panelists collaborated over several years by evaluating maple syrup from throughout the state of Vermont. The result was two sensory tools to help sugarmakers determine the quality of the maple syrup each season. It was jointly developed by the Nutrition and Food Sciences Department at University of Vermont and the Vermont Agency of Agriculture Food and Markets. State funds for this project were matched with Federal funds under the Federal-State Marketing Improvement Program of the Agricultural Marketing Service, U.S. Department of Agriculture.

The University of Vermont

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# the map of maple

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intensity →

aroma and flavor

| | |
|---|---|
| maple | maple |
| toasted | baked apple, brioche, golden sugar, crème brûlée, toasted nuts, roasted marshmallow, burnt sugar, caramel, coffee |
| milky | fresh butter, condensed milk, melted butter, butterscotch |
| confectionary | light brown sugar, molasses, dark brown sugar, toffee |
| spice | vanilla, nutmeg, cinnamon, mixed spices |
| fruity | raisins, orange, peach, mango, raw nuts, prunes, grapefruit, apricot |
| floral | honey, floral blend |
| earthy | grassy, oats, mushroom, hay |
| others | praline, bourbon, spiced meat, mineral notes, dark chocolate, soy sauce, leather |

taste

sweetness ← balance → maple intensity

mouthfeel

smooth ⟷ mineral

thin | syrupy | thick

## tasting maple syrup

The **map of maple** is a sensory tool, allowing you to explore all the wondrous possibilities of Vermont maple syrup. Here are some hints for tasting on your own.

Smell the syrup before tasting. Try to identify any distinct *aromas*. Take a look at the list of **aroma and flavor** descriptors as a guide.

Take a small sip of the syrup. Move the syrup in your mouth briefly, and *feel* the texture. See the **mouthfeel** section for suggestions.

Then, evaluate the taste characteristics. See the **taste** section for suggestions. For all the sensory properties evaluated, always try to asses the *quality, quantity and balance* of the descriptors identified.

Consider the *flavor* with another sip. See if the sensory "families" help you place the aroma and flavor of the syrup, allowing you to identify and describe each particular maple syrup.

If possible, taste and share your reactions with a friend. Sometimes tasting and talking with others can help your descriptions.

## why taste and tell?

Maple syrup is an old-fashioned yet long-lived taste of Vermont. Exploring the differences between Vermont syrups can capture the variety of delightful and delicious possibilities the state has to offer. Learning the qualities that make each batch of maple syrup unique helps create exciting new conversations where producers, retailers and consumers engage in identifying the aromas, flavors and tastes of your favorite syrup. Though you might use this tool in a variety of ways, we hope it can serve as a roadmap on a fabulous journey through Vermont's distinctive maple syrups.

"[When] you do sip your way through a few 'syrup flights,' you quickly realize that maple syrups are wildly different once you get beyond that great bear hug of sweetness." —**food writer Rowan Jacobsen in *American Terroir***

**the taste of Vermont**

This sensory map captures the delicious qualities of Vermont maple syrup. A team of researchers, sugarmakers and sensory panelists collaborated over several years by evaluating maple syrup from throughout the state of Vermont. It was jointly developed by the Nutrition and Food Sciences Department at University of Vermont and the Vermont Agency of Agriculture Food and Markets. Reseachers at Middlebury College were also involved. State funds for this project were matched with Federal funds under the Federal-State Marketing Improvement Program of the Agricultural Marketing Service, U.S. Department of Agriculture.

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