

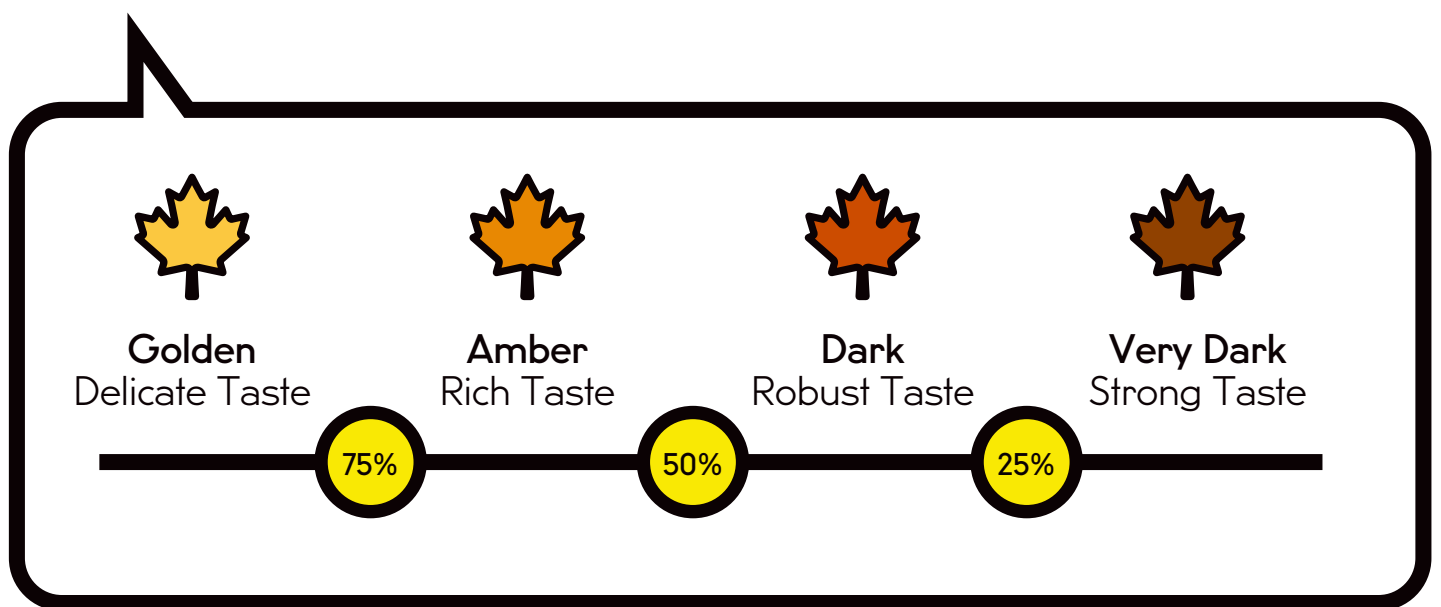
# STUDYING MAPLE SYRUP TO BETTER UNDERSTAND ITS BEHAVIOUR DURING PROCESSING

## Maple syrup classification

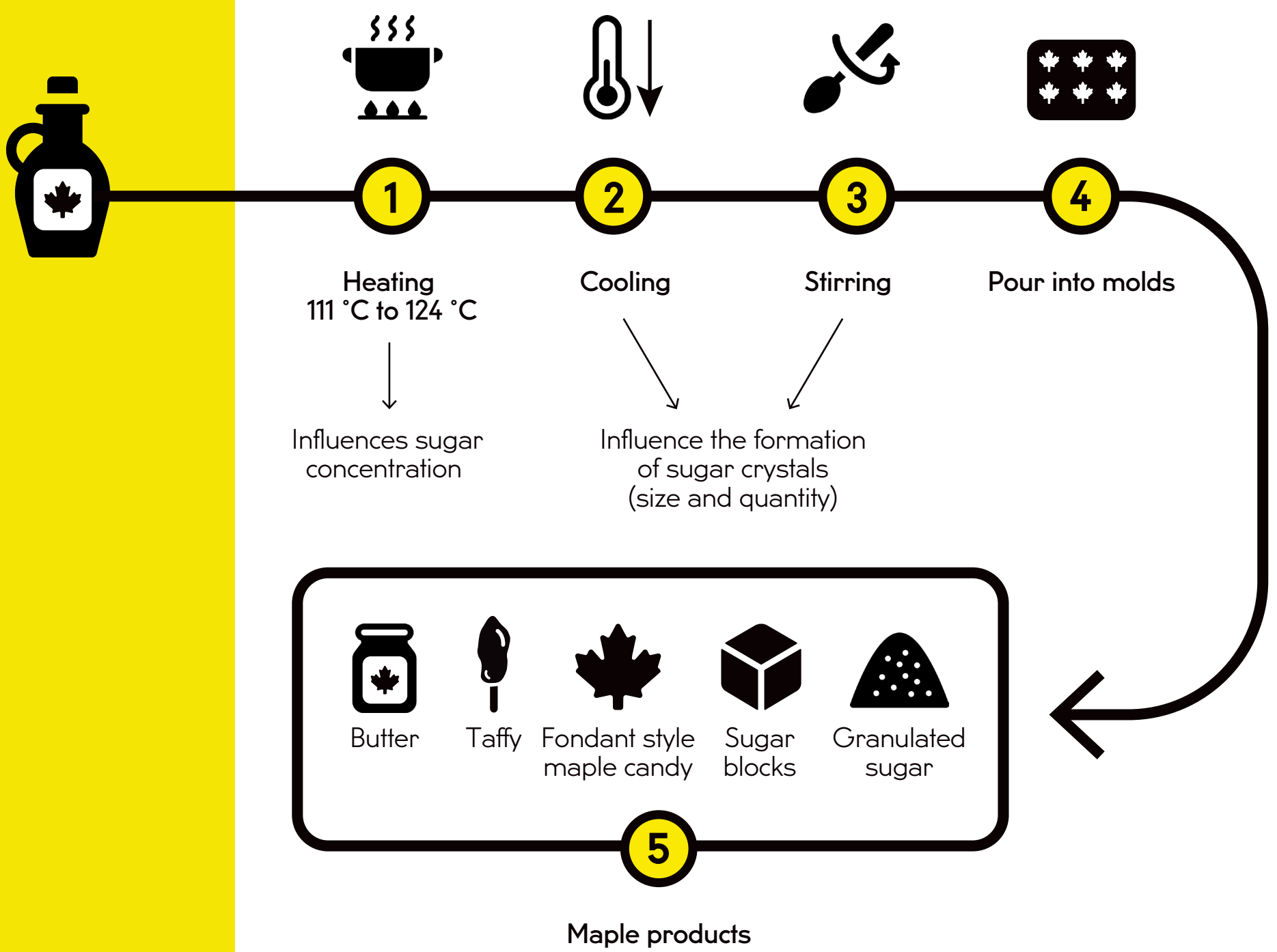
Source: Canadian Grade Compendium: Volume 7 – Maple Syrup



Syrup is classified based on its ability to transmit light (% of light transmission)



## Steps in maple products manufacture



### 1

The syrup (66% sugar or 66 Brix) is brought to a boil

### 2

The boiling temperature rises as the syrup becomes more concentrated

### 3

As the product cools, it becomes supersaturated. Any disturbance (e.g. agitation) initiates crystallization

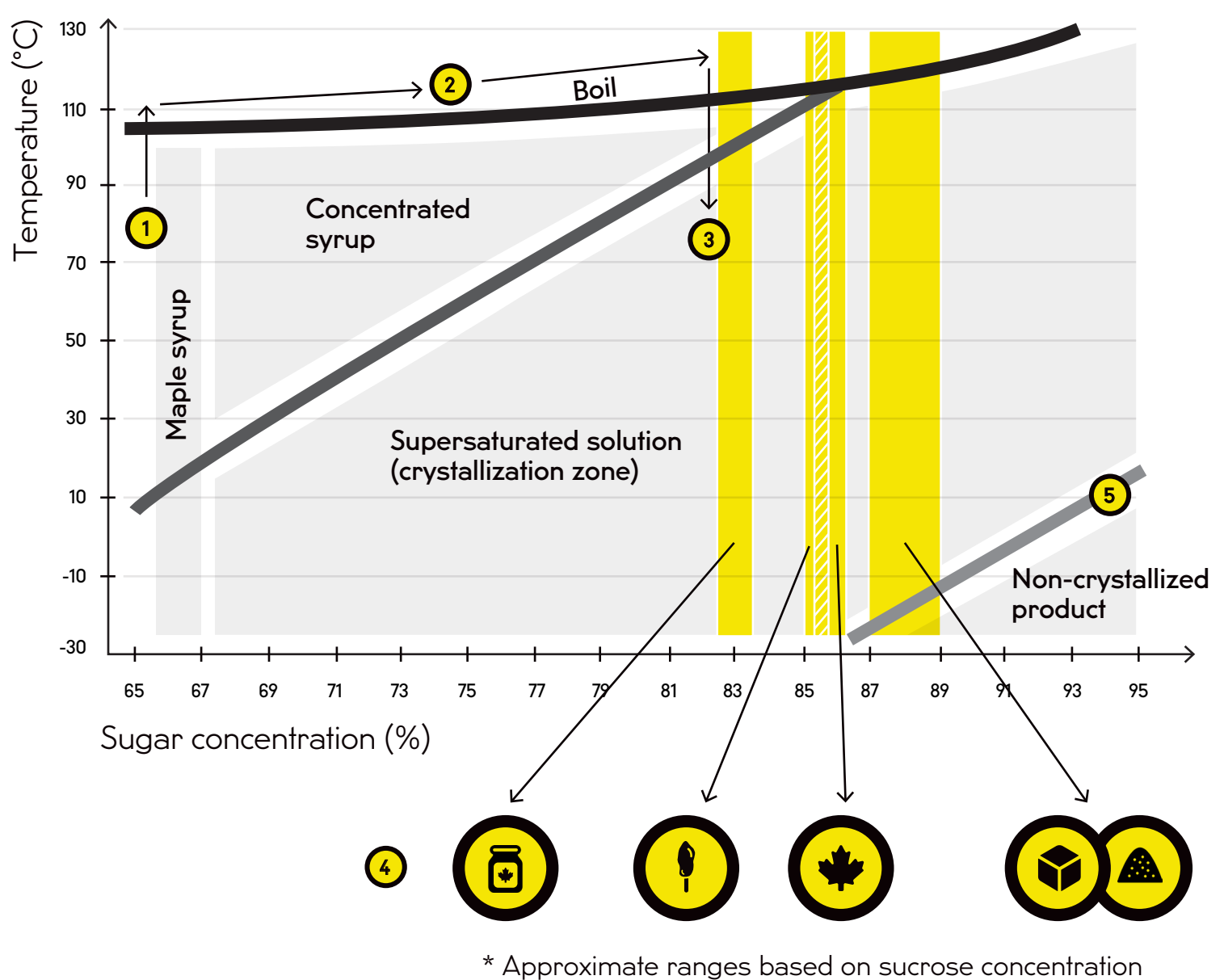
### 4

Depending on the desired product, heating must be stopped at a specific boiling

### 5

Sugar crystallization can be limited if the viscosity is high, which occurs at low temperatures or high concentrations

## The influence of heating and cooling on the production of maple products may be illustrated by a phase diagram

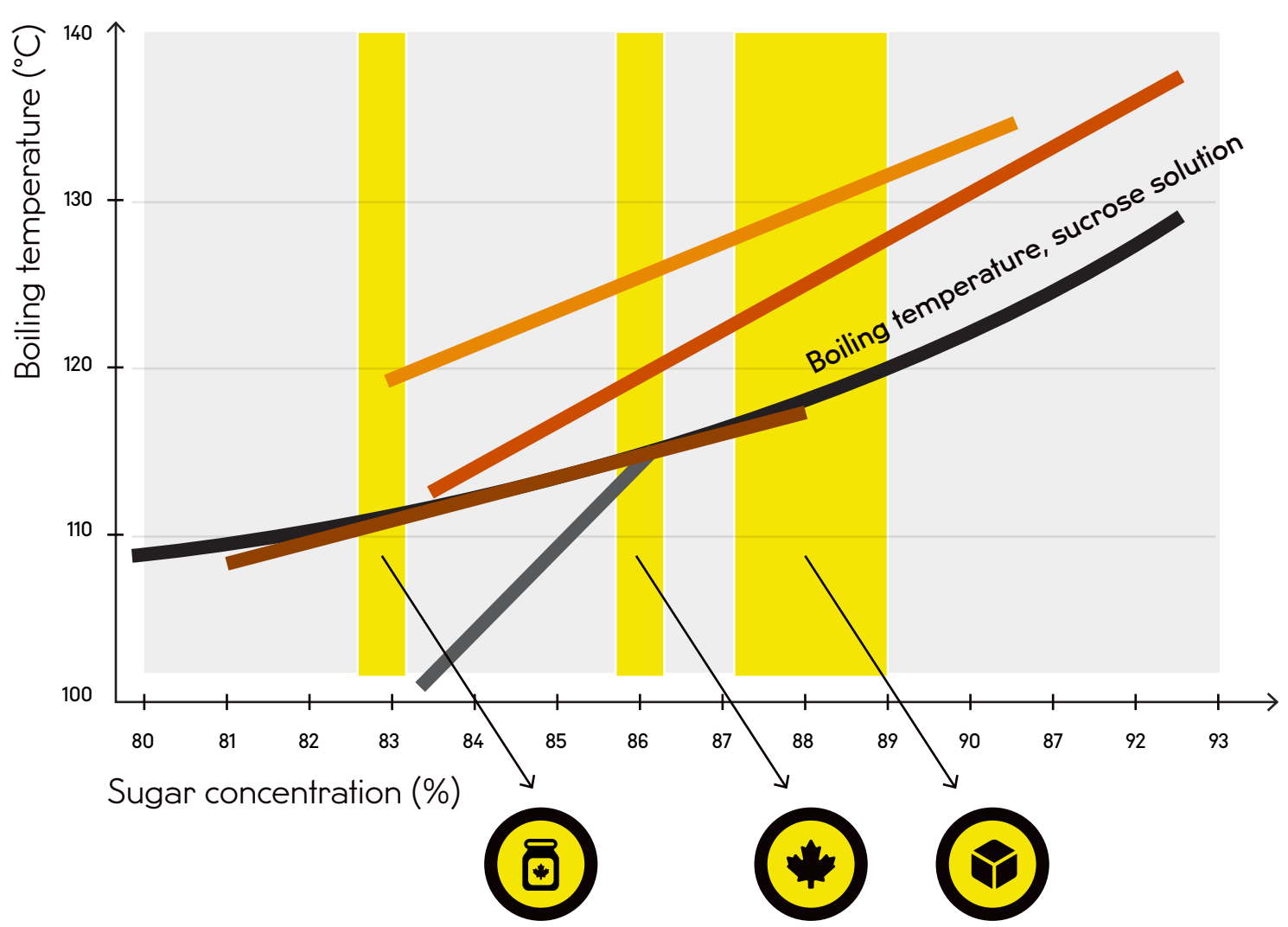


## Boiling temperature curves of different syrup classes

The syrup class has an impact on the boiling temperature curve.

Very dark syrup has a different boiling temperature curve from amber and dark syrups.

This means that for an equivalent sugar concentration the boiling temperature of very dark syrup will be lower.



A phase diagram illustrates important information about the behaviour of maple syrup during processing.

The boiling temperature curve is different for very dark syrup. In this case, it would be important to adjust the boiling temperature to get the desired maple product.

Additional work is needed to determine the impact of these boiling temperature differences on sugar crystallization and the textural properties of processed products.

To learn more, watch our video

**GastronomiQc Lab**

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