Converting Starter Hydrations

How the StarterConverter program works

Prerequisite

This note presumes you understand baker's percentages and hydration. If you do not, see the note "About Baker's Percentages and Hydration".

A Brief Review

By definition, the ingredient percentage (IP) is the weight of the ingredient divided by the total flour weight (TFW).

(1) IP = IW ÷ TFW

or TFW = IW / IP

From which it follows that the total weight of the ingredients, divided by the total baker's percentage of those ingredients is the weight of the flour.

(2) TW / TP = TFW

Where TW is the sum of the weights of the ingredients and TP is the sum of the baker's percentages of the ingredients

Substituting starters with different hydrations

So, if a sample recipe calls for 185 grams of 166% hydration starter, we can separate it into its ingredient weights as follows:

166% Hydration Starter Recipe	**Bakers' Percentage**	**Weight (grams)**
Warm water	166	115
Flour, unbleached bread	100	70
Total	**266**	**185**

Since flour is the base ingredient for all of the baker's ratios, we will not change its weight. Rather, we will calculate the water in the actual starter and make adjustments.

For example, if we wish to use a starter at 100%, we will likely need to add the starter plus some water. Since we know the TFW of the proposed starter, we can quickly find the weight of the water by noting that the hydration of the starter is the IP of the water. Thus

IW_{water} = Hydration * TFW

NOTE: You will need to express the Hydration as a decimal or divide the result by 100 when you are done.

In the example, we knew the weight of the flour was 70 g, and the hydration was 100% so

$IW_{wate\ r}$= 100 * 70g / 100 or just 70 g

100% Hydration Starter Recipe	Bakers' Percentage	Weight (grams)
Warm water	100	70
Flour, unbleached bread	100	70
Total	**200**	**140**

So to use this starter in a recipe calling for the 166% starter we would use 140 grams of 100% starter and add 45 g grams of additional liquid to make up for the missing water.

These are the calculations provided by the StarterConverter program.

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