

Sources + further reading

Bread, Jeffrey Hamelman

Baking: The Art and Science, Claus
Schonemann

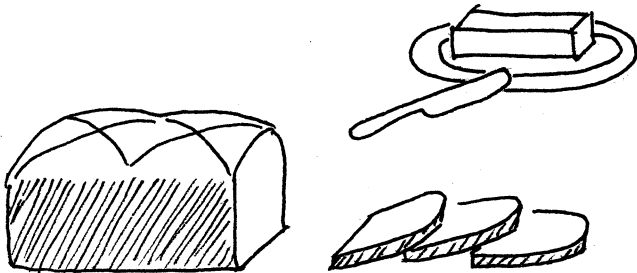
"Real Rye Bread," James MacGuire,
The Art of Eating

The Rye Baker, Stanley Ginsberg

Modern Bread Theory with
Thomas Teffi - Chambelland
at SFBI

UP RYE ZINE

by Sophie Williams



Recipe Building

Some rules of thumb. There are, of course, many exceptions.

Hydration: 70-92%

Prefermented flour: 30-50%

Dough temp: 80-86°F / 27-30°C

Bulk: 0-60 minutes

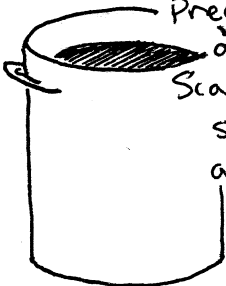
Proof: 2-4 hours

Bake: Hot for 10-20 minutes, then cooler. Steam is nice.

Also worth exploring:

Precooked flour for tenderness and keeping quality.

Scalded flour to increase sugar content through amylase activity.

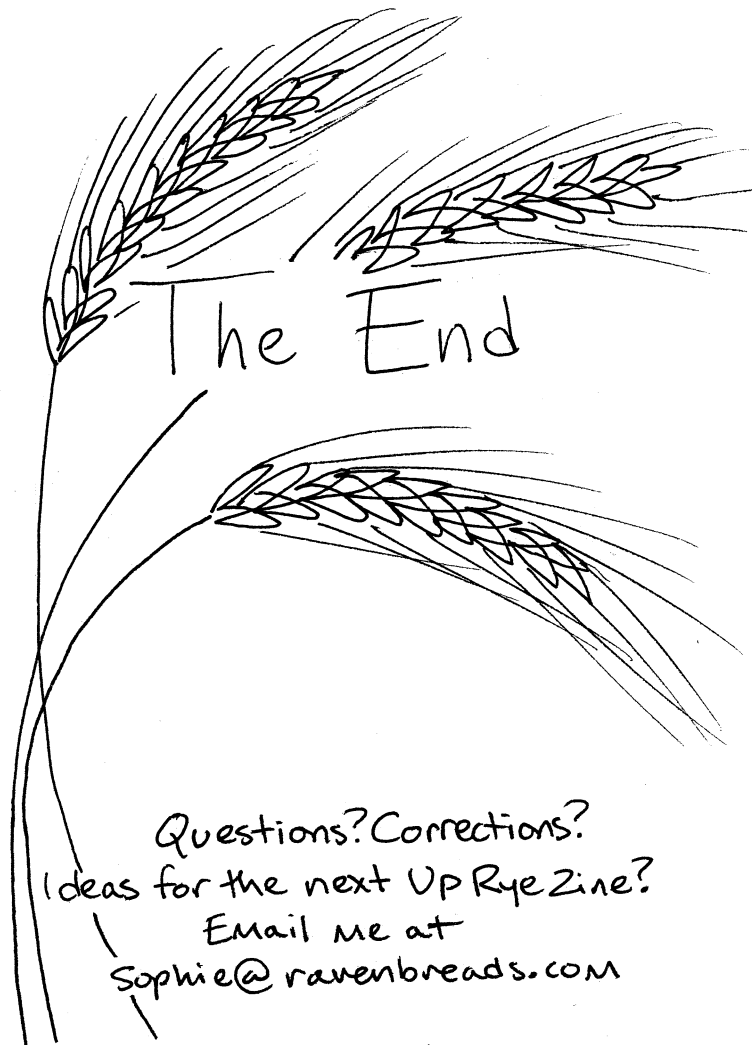


About this zine

Much of what I've learned about rye over the past five years of running a market bakery has been through trial and error. Lots of error. Any rye disaster you can think of - gummy crumb, flying top crusts, unsliceable bricks, heat cracks - I've managed it. All the while I've been baking and collapsing rye breads, I've been talking to other, better bakers, reading books and blogs, and tracking times, temperatures, and recently, the pH of my doughs.

This is a collection of some of what I've learned. It won't answer all your rye questions because I still have plenty of unanswered questions of my own, but I hope it will help, a little, in your baking.

Sophie



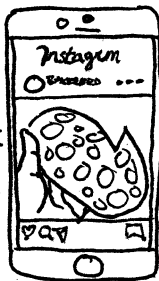
Questions? Corrections?
 Ideas for the next Up Rye Zine?
 Email me at
 Sophie@ravenbreads.com

Rye basics

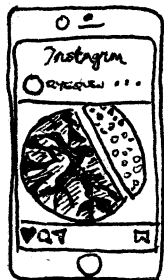
Bread rises because yeast produces CO_2 as a metabolic byproduct, which gets trapped in dough as bubbles.

YEAST: sugar \rightarrow alcohol + CO_2

In wheat doughs, a strong network of gluten proteins stretches around the CO_2 bubbles.



Rye doesn't have the luxury of functional gluten. Instead, rye doughs are dependent on the viscosity of water-hungry molecules called **PENTOSANS** to trap CO_2 bubbles in the rising dough.



This makes the production, aesthetics, eating, and keeping quality of rye breads totally different than those of wheat.

FERMENTATION

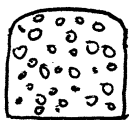
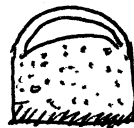
HYDRATION



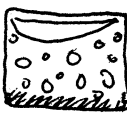
under fermented



too dry



over fermented



too wet

