

Rocky Mountain Heritage Grain Trials Kitchen Trials 2021

The Heritage Grain Kitchen Trials attracted 44 participants including home and professional bakers. Trialists received up to five varieties of wheat to test in their own kitchens including emmer, einkorn, Khorasan, red fife, durum, and Sonoran white, plus a data sheet to track findings on aroma, crumb taste, texture and flavor, volume, loft, and loaf color. These data sets complement the pup loaf analyses conducted in the research trials. We invited participants to try a 50/50 flour blend with all purpose or bread flour and the whole grain flour, unsifted.

Following are profiles of four of our trialists:

1. Ellen Jantzen (Santa Fe, NM)
2. Ashley Overstreet (Loveland, CO)
3. Tomoe Natori (Cortez/SW CO)
4. Wendy Temple (Los Angeles)

Ellen Jantzen

1. Location: Santa Fe, New Mexico
2. Season you were trial baking: Early Summer
3. Elevation: 7,200 ft.
4. Climate zone: 6a
5. Annual Rainfall: 14 inches
6. Baking experience: Quite experienced
7. Yeast or levain: Levain
8. Did you follow the Kitchen Trial recipe? Yes Did you make any modifications? No
9. Favorite flour to work with, why? Emmer and Einkorn. All were pretty equal to work with except the Khorasan and Durum were a bit stiff and could have used a bit more water.
10. Mill used: Flour was already milled
11. Cookware used: Cast iron Dutch oven and banneton
12. State of local/regional food economy regarding local grains, fresh flour movements: Santa Fe seems quite enthusiastic about local grains.
13. Word of advice to folks interested in getting involved, new bakers, gardens, etc.: Don't be afraid to fail.... Test and try!



Ellen Jantzen; Heritage Grain Sourdough Loaves

Ashley Overstreet

1. Location: Lafayette, CO
2. Season you were trial baking: Fall
3. Elevation: 5,250 ft
4. Climate zone: 5B
5. Annual Rainfall: ~15"
6. Baking experience: Experienced home baker (some professional experience)
7. Yeast or levain (sourdough): Levain
8. Did you follow the Kitchen Trial recipe? Did you make any modifications? I followed the Kitchen Trials recipe without any modifications.



Ashley Overstreet; Einkorn Sourdough Bread

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9. Favorite flour to work with, why? My favorite flour changes frequently, but I consistently like einkorn flour. I'd heard that it was hard to work with, but I haven't found that to be the case. Granted, I'm combining it 50/50 with bread flour when making loaves, but even when I've used 100% einkorn in pancakes, scones, and biscuits, they've turned out nicely.
10. Mill used: Komo XL Plus
11. Cookware used: Challenger Bread Pan
12. State of local/regional food economy regarding local grains, fresh flour movements: There's a budding grain movement in Colorado. There are a couple of organizations that are working in this area- Rocky Mountain Seed Alliance, of course, but also Colorado Grain Chain and Mad Agriculture. Additionally, there are some mills that have sprung up from bakeries, Dry Storage's Mill and Moxie Bread Co's The Mill Site, plus several bakeries and farms growing and using heritage grains. Another example of the local grain movement in Colorado can be found in Pastificio Boulder, which makes fresh pasta from heirloom wheat (locally when possible) and is gaining some national attention.
13. Word of advice to folks interested in getting involved, new bakers, gardens, etc. Dive right in. There's a natural inclination when doing something new to hesitate or to worry that you have to learn the exact way of doing it. The beauty of growing grains and/or baking bread is that there isn't one correct way. Try things until you find what works for you. Then keep expanding and learning more. Also, see what's going on in your area and get involved however you can, whether that's taking a course, joining an organization, or just supporting local businesses involved in this movement.



Ashley Overstreet; Khorasan Sourdough Bread

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Ashley Overstreet; Khorasan Sourdough Bread

Tomoe Natori

1. Location: Cortez, CO
2. Season you were baking: Spring 2021
3. Elevation: 6,200 ft
4. Climate zone: Semi-arid high desert (growing zone 5)
5. Annual Rainfall: 8" average
6. Baking experience: Homebaker - I bake weekly
7. Yeast or levain: levain
8. Did you follow the Kitchen Trial recipe? Did you make any modifications? I followed the recipe for the first loaf, and it was made of emmer with 50% all-purpose flour. From the second loaf on, I modified the recipe to increase the proofing and baking times and also to use only heritage flours - eliminating all-purpose flour.
9. Favorite flour to work with, why? All varieties are fine flours for sourdough bread and delicious in their own ways. But, I have grown einkorn and white sonora for a while and am partial to them. They make such soft and sweet flours, and I love baking with them.
10. Mill used: No mill set up at home; used already milled flours in this kitchen trial.
11. Cookware used: I like using a glass measuring cup to start levain so i can see through it bubbling up and how much. My dough rests in a wicker basket lined with a floured cotton cloth. To bake: a combination of an old cast iron pot and a frying pan that fit somewhat are preheated in the oven. These misfits give more loft than a "dutch oven" I

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own and work great. I like flipping the rested dough out onto a parchment paper and sliding the paper right into the heated pot and putting the hot pan over upside down. Two layers of 100% cotton work gloves protect my hands.

12. State of local/regional food economy regarding local grains, fresh flour movements: I used to buy turkey red from a friend, but he's no longer growing. Continuing my search for locally-grown heritage grains. Meanwhile, I depend on the mill-to-order organic heritage grain growers like Bluebird Farm in Washington.
13. Word of advice to folks interested in getting involved, new bakers, gardens, etc.: Breadmaking is an ancient practice, just as gardening and seed saving. Raising and preparing food we eat, even for a bowl of cereal or a handful of seeds for next year, emulate our ancestors' steps and revive them in us, connecting us to them. My favorite part is raising sourdough ferments to nurture an invisible world of diverse microorganisms - not unlike raising soil for growing food. I keep 3 kinds of mothers in the fridge and bake single-grain and three ingredient (flour, water and salt) bread regularly, though blending flours and/or experimenting with oils and sugars also are a lot of fun. enjoy! *Good read: Wild Bread: Sourdough Reinvented by MaryJane Butters.



*Tomoe Natori; Red Fife
Sourdough Bread*

*Tomoe Natori; Durum
Sourdough Bread*



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Tomoe Natori; Sonoran White Sourdough Bread



Tomoe Natori; Sonoran White Sourdough Bread

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Wendy Temple

1. Location: Del Rey, CA. (basically West Los Angeles, CA)
2. Season you were trial baking: Late summer
3. Elevation: Sea level
4. Climate zone: I live very close to Marina del Rey - I believe it's 10b for gardeners. Cooler than LA in the summer, maybe warmer in the winter.
5. Annual Rainfall: Maybe 10 inches/yr -never enough.
6. Baking experience: I've been baking for many years...for as long as I can remember.
7. Yeast or levain: Levain!!!! (I rarely use yeast....but sometimes recipes call for it)
8. I followed the Kitchen Trial recipe
9. Favorite flour to work with, why? My go-to flour is Central Milling Artisan Bakers Craft Unbleached White Wheat Flour, Organic. (commonly referred to as "ABC") along with 100% Bread Flour Whole White Wheat Unifine), Organic. These are already milled. However, I like to play around with lots of other flours that I mix in like Spelt, Malted, Kamut, and Einkorn. But I would love to get more Emmer, because from the trial, I loved it.
10. Mill used: I used first a Vitamix special milling blender then the MockMill attachment to my Kitchen Aid. Notes on this combo: The Vitamix was good for the initial milling, but did make the flour a little warm/hot which I've heard might take some nutrients out of the flour, so I don't know that I'd use it again. But, it did make the MockMill process faster and easier. In general the MockMill is not fast. If I can save up the \$\$\$, I might shoot for one of the fancier models that might be more efficient. Need to do more research on that.
11. Cookware used: I use Dutch ovens. A Cuisinart 2.0 (qt) and a Zelanico (I received as a gift) which is only slightly larger. I started out with the Lodge cast iron process but found my breads didn't rise as highly as I wanted, so I switched to the Dutch ovens.
12. State of local/regional food economy regarding local grains, fresh flour movements: I buy my flours from two basic sources, except for when I go to events where flour is showcased and I'll buy some there. My sources are Azure Standard (azurestandard.com) and/or from a local grain seller - King's Roost (kingsroost.com). Plus, I'm part of a group - LA Bread Bakers (LABB). We have monthly community bread bakes (and pizza bakes beforehand in the hotter temp) in a pizza oven built for community use at a local church.
13. Word of advice to folks interested in getting involved, new bakers, gardens, etc.: Unfortunately, I don't have enough space to grow wheat myself. I'm more of a food, tree, and low drought gardener. I do follow several Facebook sourdough groups. I'm kind of currently hooked on a sourdough scoring site. Very inspiring, somewhat demoralizing, but worth trying! And that's the key with bread baking. Keep trying. Try all sorts of flours and techniques. I have been a pretty loyal Tartine sourdough baking technique person. It takes much longer than other techniques - a good reason to be at home for several hours. Everyone loves home baked bread. It makes the home smell delicious. And, the most fun is even if it seems to be a flop, I bet it still tastes good and just call it flatbread or make croutons or breadcrumbs! You know what they say about making lemonade out of lemons! Also, to see if there's any bread baking group to join....there is NOTHING like the bread baking community. I learn something new every time I meet up with them...and I've found that bread bakers love to share...no secrets, all joy!

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14. Notes: I have been baking sourdough breads for several years. I think my oven bakes bread a bit on the lighter side. I generally bake with 10-20% varieties of wheat (Hard Red, Einkorn, Kamut, Spelt, Malt) and 80-90% Artisan Bakers Craft (ABC) bread flour. So, my loaves are generally lighter in color and weight and have a crispier crust and also not so less dense than this loaf turned out. I am part of the steering committee of The Learning Garden at Venice High School in LA. David King and Julie Man were the ones that introduced me to Rocky Mountain Seed Alliance. In the gardens, David started an Ancient Grain section with grains that he got from the Heritage Grain Trial Program.



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Wendy Temple; Heritage Grain Sourdough Loaf

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Ellen Jantzen; Heritage Grain Kitchen Trials

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Variety	Aroma	Crumb Taste	Crumb Texture	Crust Flavor	Volume	Loft	Color	Trialist
Durum								
	grainy	sour/dairy	dense	toasty	848g	medium	2	Ellen Jantzen
	bold	sweet/dairy	heavy and dense	sweet toffee	481g	5.7"	2	Tomoe Natori
	sweet, nutty, molasses		dense	toffee	517g	3"	3	Shawna Ritz

Notes:

Ellen noted the Durum didn't rise as much as the Einkorn or Emmer during bulk ferment but recovered its rise in the oven. She suggests modifying the recipe to include more water because the flour absorbed a lot of it and the dough was stiff.

Einkorn	Aroma	Crumb Taste	Crumb Texture	Crust Flavor	Volume	Loft	Color	Trialist
	sour	sour	airy	resinous	913g	3.5"	2	Ashley Overstreet
	slightly sour	slightly sour	moist but airy	roasted	824g	low	3	Ellen Jantzen
	sour	sour/dairy	light and airy	roasted	418g	5.2"	3	Tomoe Natori
	grainy	sour/dairy	dense		910g	3.75"	1	Wendy Temple
	nutty	sour	dense		512.5g	2"	4	Shawna Ritz

Notes:

Einkorn is Ashley's favorite and then ranks Emmer and Red Fife as close seconds!
Tomoe modified the recipe by omitting the AP flour and halved the remaining ingredients. She let the dough autolyze for 1 hour and then bulk rise for 2 hours after adding salt. She increased the bake time 5 minutes with lid on and 3 mins with the lid off.

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Wendy noted that Einkorn was denser than Emmer and possibly denser than the Red Fife. She noticed the flour had a grainy feeling and that the dough was wet and loose (pre-bake). Ranked as #2 or #3 with #1 being Emmer.

Emmer	Aroma	Crumb Taste	Crumb Texture	Crust Flavor	Volume	Loft	Color	Trialist
	grainy	sweet	heavy	fruity	919g	3.375"	2	Ashley Overstreet
	grainy	sweet	airy but dense	toasty	862g	low	3	Ellen Jantzen
	fruity	sweet/dairy	half air, half dense	resinous	839g	6.2"	1	Tomoe Natori
	wheaty/grainy	sweet/wheaty	dense, but not as dense as einkorn	toasty/nutty	898g	3.75"	4	Wendy Temple
	balsamic		airy but dense	malty	508g	2"	2	Shawna Ritz

Notes:

Wendy noted that the Emmer was a stronger dough and held its shape better when wet (pre-bake). Emmer was one of Shawna's best performers, along with Khorasan.

Khorasan	Aroma	Crumb Taste	Crumb Texture	Crust Flavor	Volume	Loft	Color	Trialist
	sour	sour/dairy	light	fruity	901g	3.375"		Ashley Overstreet
	grainy	sour/dairy	heavy	toasty	887g	low	2	Ellen Jantzen
	malty		dense	nutty	517g	4"	3	Shawna Ritz

Notes:

Ellen followed the recipe but added 10g more water because of a stiff stretch and fold.

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Tomoe modified the recipe by omitting the AP flour and halving the remaining ingredients. She let the flour and water autolyze for 1 hour, let the flour and dough rise for 1 hour, and then added salt. The dough sat for several hours before stretching and folding 3 times and shaping as the recipe indicated.

Khorasan was one of Shawna's best performers along with Emmer.

Red Fife	Aroma	Crumb Taste	Crumb Texture	Crust Flavor	Volume	Loft	Color	Trialist
	grainy	sweet	airy	roasted	890g	3"	3	Ashley Overstreet
	toasty/grainy	grainy/sour	airy and heavy	roasted	883g	low	2	Ellen Jantzen
	grainy	sweet	light and airy	sweet butterscotch	445g	6.9"	4	Tomoe Natori
	wheaty/grainy	nutty, sour	soft	toasty, malty	1020g	4.5"	light	Wendy Temple
	toasty		dense	resinous	508g	3"	5	Shawna Ritz

Notes:

Tomoe modified the recipe by omitting the AP flour, increasing the Red Fife by 40g, and halving the remaining ingredients. She let the dough autolyze for 1 hour and then bulk rise for 2 hours after adding salt. She increased the baking time 2 mins with lid on and decreased it by 2 mins with lid off.

Wendy ranked Red Fife as #2 or #3 with Emmer being #1.