

# “Baking With Fresh Ground Flour” Webclass Transcript

Wardee Harmon from Traditional Cooking School &  
Paul Lebeau from Wolfgang Mock

Wardee: Well, hi everyone. I'm Wardee and welcome to this web class, and I want to say hello to my guest Paul. Hi, Paul, who's on the line.

Paul: Hi, Wardee.

Wardee: Hello. So Paul Lebeau. Am I pronouncing that correctly?

Paul: Pretty good. Well, that's the good American pronunciation.

Wardee: What's the real pronunciation?

Paul: Paul Lebeau.

Wardee: Lebeau. Okay. I'll have to practice that. Well, Paul is with Wolfgang Mock and what we're going to be talking about is a home stone mill later on in the web class, but Paul's love is for real food and part of that like me and my family is a love for using food that's as healthy and fresh as possible, and so one of those things that we do in our homes is we grind our flour fresh for our baking, and so the topic of today's web class really is we're going to be talking about baking with fresh ground flour and go over the health reasons and tips for doing it and all kinds of stuff like that as well as talking about milling processes and the favorite kind of mill we're going to talk about at the end. So, I'm going to stop talking so much and really give the floor over to Paul, starting with Paul, if you could tell us a little bit about yourself and your love for fresh ground flour.

Paul: Okay. Well, gee, I first came across fresh ground flour when I met my wife Sigrid. She had this funny mill in our kitchen and I of course asked well, what's that for? And I realized that she didn't buy any flour. She needed some, she milled it up and she milled a lot of curious things like millet and things like spelt and I got kind of interested in it for a while, and well, it's a bit of a long story but in the environment which she lived there was a lot going on on the topic and I slowly and surely got captivated by it.

Wardee: Wonderful. Paul, could you tip your ... Your video just came on. Could you turn the screen down? Then we can see you better with your great hat there.

Paul: Yeah, my great hat. Well, it's either my hat or my bald pate that you have to look at. I'll try not to have to read anything, so I'll take my glasses off.

Wardee: Oh, no. That was fine. So a little bit cut out there when your video came on. We lost sound for a few seconds. Could you go back a bit for how you got involved with the [Mockmill](#)?

Paul: Sure. Well, Siggy at the time was a tenant of the Mock's and she lived in the former pig sty of the farm that Wolfgang and Frieda had bought back in the early 80s, and of course, I was a guy in a gray suit and white shirt and red tie and black shoes and sort of suspicious to those more organic types, but when they realized that Siggy and I were going to become a permanent thing then they sort of got a little more accepting and we became good friends. Later on, Wolfgang observing what I was doing on the business side of my life asked me for advice in his business and so we had a business dialog going and two years ago he said "Come on. I need you to help me get this thing going," and I decided to join him. I thought at this stage of life, this is something I can do for the next 20 years and I have to work for the next 20 years because I've started a new family, so I said this is something that I can really be passionate about for the next 20 years. And that's what put me on this trail.

Wardee: Awesome. I love that. I love when passion and life intersect or I should say passion and business intersect, so it becomes your life and you can just put yourself 100 percent behind the work that you do because you love it so much.

Paul: Absolutely.

Wardee: Yeah, that's how I feel about our work at [Traditional Cooking School](#). It's definitely a labor of love and all the things that we share with those of you that are watching are things that are happening in our kitchen and changing my family's life for the better and I just love sharing it with all of you. So, okay. Paul, we're going to talk about, well let me tell everybody the hat that Paul's wearing says [Mockmill](#) because Paul represents the company that produces a home stone grain mill called the [Mockmill](#) and it's the mill that we're

using in our family. We're going to talk about it more at the end. Right now we're going to focus on fresh ground flour, its benefits and how to use it in our home. So, first, Paul, if you could just talk about what flour means today to most people and how that is very different from the kind of flour that you and I like, fresh ground. Talk about the benefits and how wonderful it is.

Paul: Okey-doke. Well, flour at least to a very, very, very high percentage of what's consumed in really around the world now, not just the developed world is a ... It is one portion of what's a really complex thing and it's the least complex portion of that, and so a kernel of cereal grain is a really complex construction of nature and the modern flour that we have today is all the complexity stripped away from it, all the biology stripped away from it and some very, very simple fiber products of starch and protein and some cellulose to kind of form the shells itself. That's all it is. It's a very, very, very simple thing. And it's made that way because it becomes basically inert. It's just not going to change. Nature won't be able to change it. It's very, very stable and when it was originally produced 130 years ago, that was a great thing because wow, we can put it in sacks in the back of the wagon train and take it across the prairie for weeks and months and it'll stay stable. It won't go bad and we'll have something to eat every day.

Today, it has the advantage of being able to travel really great distances and hang around in warehouses forever before it gets consumed, and so that's the way in general people consume it, and it's different from the kind of flours that you and I like to work with because what we do is we take that whole grain in all its complexity, now we're talking about tens of thousands of discrete phytochemicals that make this up and we're talking about some really intricate biology in the sense of an embryo that's in there that will be viable for decades or even centuries, and we grind all that up and eat every bit of what's in it. We take it all just the way that nature put it together only ground up so that we can digest it and make it into foods for ourselves, and there's a world of difference between those two products in my view.

Wardee: Sure. Sure. So basically you're saying that the refinement process really whittled it down to something very simple so that it could travel and sit on a shelf.

Paul: That's right. And that happens to be the big mass that's, let's not forget that, I mean, that's what we get as white flour when you go

buy all purpose flour is what you get is plant food because that's the part of the grain that's the food package that nature puts there for the embryo to consume when it starts to sprout. It's a food pack, so we get, the white stuff is plant food. The whole grain flour that you and I have coming out of our mills at home is that embryo. It's all these protective oils which includes great things like tons of vitamin E and other things that will protect it in its little oily sac that it's in. It's a tiny little thing by the way, and then it's the packaging that it has, what we call the bran but that bran is this intricate fibrous interweaving of tens of thousands of protective phytochemicals that keep that embryo viable over all those years and decades and centuries.

And so it's very complex, that very low weight part of it, and the heavy weight plant food part, that's what we call white flour. It's just plant food, and what we're able to do when we mill it ourselves is to include all those protective phytochemicals and above all, well, not above all, but all that good fiber, let's not forget it, that's included in that plus the vitamin rich oily components that surround the embryo or what we call the wheat germ or the grain, the germ.

Wardee: And in our family we notice a huge difference in how our baked goods taste if we're using fresh milled flour versus flour, store bought flour. Could you speak to the major nutrition differences that really have an impact on our bodies when we're using fresh ground versus store bought or that refined flour?

Paul: Well, yeah. I mean, what you have in the refined flour is you have a good bit of protein. It's depending on what grade you get. It's going to be 13, 14 percent plant protein which otherwise if you didn't want to get it from animal foods, you'd get it from beans and from soy and so forth. So you get some protein, and then you get a bunch of starch and of course, the starch gets broken down in a baking process into sugars. So basically you got something that's going to become sugar and you've got proteins in the white part.

When we take the whole grain though, I'll go back, nutritionally we have some very, very valuable oils in the wheat germ in very, very small quantities but they're highly valuable. It's good building blocks for us. We're still getting all that protein that's in there. We still have the starch that's going to make things taste good, and then, but I want to come back to that bran which when I listen to really highly learned people, and I'm not one of those but I try to listen to them and then take the knowledge that can be immediately useful to me

from them, they say Paul, we have no idea how many discrete phytochemicals are in the bran. We'll probably never know and if you say hundreds of thousands you could get accused of exaggeration but you're probably not exaggerating, but there are at least tens of thousands and we'll never know what they all are or exactly what they're roles are, but we know that collectively they're tremendously valuable for us nutritionally.

They help keep our body chemistry in balance. They help make sure that the communications go on, and then there's all that fiber that not so much that our body needs. It needs it to assure good transport so that we have kind of regular toilet habits that helps. But what it does is to feed the bacteria that are in our gut that we want to have flourish. You have to think of that fiber as being fertilizer for the good bacteria in your gut, whereas things like refined sugars are fertilizer for the weed bacteria in your gut that you don't want so much of. So, basically nutritionally if I capture what I believe to have learned from some of the world's top experts, that whole grain flour that we're eating is really incredible food that we could feed ourselves almost exclusively from. We'd have to add some things that have vitamin C and a few other things that are missing from there, but basically we can live from whole grain flour.

We cannot live from white flour alone. We'll get sick. We'll get infertile and we'll die if we tried to feed ourselves from only that, and that's been proven in rodent tests, in tests with rats. That's what happens, but we can basically live and thrive from whole grains and that's how civilization was built.

Wardee: So what would you say to the person that says well, what if I buy whole wheat flour off the shelf? How is that different from grinding it myself at home?

Paul: Well, it depends on whose shelf they buy it from. So this applies to the supermarket shelf, okay? What I'm going to say. But all you have to do is turn the bag over and find an expiration date, and if you're buying it from a well run supermarket chain, it's going to be oh, ten months, 12 months, maybe even 14 months out there. That means it hasn't been around for long, which is a good thing. But wait a minute, that whole grain flour that you and I mix up has got all those oily components and we all know that what happens to oil when it's exposed to oxygen, the way we do when we mill our flour up, it starts to degrade. Oxygenation takes place and the oils go rancid, and they do that fairly quickly. Let's not worry about just

how quickly. Let's just accept that they do it pretty quickly. They do it a lot more quickly than those eight or ten months of shelf life that your whole grain, your whole wheat flour in the supermarket has on the bag.

So, it's very simple. They've had to do something to that flour, take something out or chemically or mechanically, and by that I usually mean heat, alter something in there to keep it from going bad, and that's what you have to know. So, nutritionally you've got something that's not 100 percent complete the way that food is that comes through your mill and into your bowl.

Wardee: Right. So basically the bottom line here is we want it to be as freshly ground as possible. We also want it to be as whole as possible, and the more we move toward that, the better a flour we have.

Paul: That's right. I mean, you can kind of capsule that if you think of the fact that the wholeness is what really gives you the big nutritional benefits and the freshness is what gives you the olfactory and the gustative, the taste benefits because that freshness is a big thing. Somebody sent us at our request a sample of the flour they had milled and a sample of the grains that they've milled, would we please mill them and make a comparison? Are they getting flour? And we like to do that for people. So, that bag had been traveling I think for about three weeks, maybe four. And so we had that done and we did the test and I had the data and I was finished with that, and I was starting a bake and I said you know what? I hate to throw foods away. I'm going to bake this stuff. It wasn't very much.

And I put my nose in the baggie of the flour that had just been ground, same grains. Oh, that smelled really good, nice and nutty and just a [inaudible 00:15:34] thing and then I took the bag of stuff that was three or four weeks, had been flour for three or four weeks and quite honestly it smelled like nothing, like really nothing at all. And so, I think this is the kind of experiment you can simply do, and most of us know that freshly ground coffee is going to have a much more pungent, rich odor than will pre-ground coffee, even if that pre-ground coffee has been vacuum packed. So, it's analog to that. What's going on over time is a quick break down of the aromatics, the aromatics that the grain is releasing. That's why it smells good because it's letting them go and they're coming up to our nostrils. Well, that continues for a couple weeks and there's nothing left more to come up through the nostrils.

Wardee: Well, you've convinced me. I think you've convinced so many others. I want to take a moment and say hi to everyone who's with us on Facebook. Kristina Bard is saying I find you highly learned, Paul. Great conversation, and we have lots of people who are on the fence about grinding their flour or looking at the [Mockmill](#), people saying hi. Kathryn says I absolutely love my home grown grains and the option of milling my own flours. Good for you, Kathryn. And hi to Brenda and Megan and Debra, Jade, all of you, thank you so much for joining us. I am going to take questions at the very end, so if you want to put them in as several of you have, just do that and we'll scroll through at the end and have Paul take your questions, but first I have a few questions of my own.

So, Paul, I want to ask about your wife because when you met, she had the mill there and that was your first introduction to milling. So, what was the back story behind your wife with her milling? Is that the way she grew up, that's how her parents did it so that's what she did or did she have a transformation?

Paul: Yeah, well, we live in a rural community close to a little, what was a medieval center here in Germany, just under the flight path into the Frankfurt airport really, just about 30 miles away from there, and that's where she grew up, and the culture of this area is one of a fairly high consciousness of what's healthy, and I'm going to go out on a limb by saying when she grew up it was the 80s, her teenage years, and the natural foods movement was what every young person found cool quite honestly, and so it was just when the first natural foods markets opened up and you had your first apartment, that's where you went and shopped for the food that you needed.

And so I guess it was just a natural step, and then of course I believe that her sister who's now our next door neighbor met Wolfgang Mock and almost everybody who met Wolfgang Mock, he was a bit like me at the time, the real missionary, they couldn't help but figure out a way to afford one of his nice, but really expensive wooden cased mills, and he always found a way to get them into the hands of the people who were his friends, so if you were a friend of Wolfgang's at the time, you almost always had one of his mills.

Wardee: That's awesome.

Paul: I think that is really the story. You almost couldn't live there on the farm with him without having a mill. Everybody's got a mill.

Wardee: That's so neat.

Paul: In fact, I like to describe the farm to people by saying well, if you go in and there are nine families living there and if you go and do the inventory of all the apartments, you'll find more pianos than you'll find television sets, and then Wolfgang always pipes up and says and lots of mills.

Wardee: That's great. I shared on my podcast a couple weeks ago, but I've spoken to my, I love to talk to my Dad about this because he grew up in a small village in Israel and when he was growing up, they baked their own pocket bread, weekly or I can't remember, every day or so and all the women in the village, there was a village stone mill and they would take their grain there and mill what they needed for their baking, take care of, and that would just repeat as often as they needed to bake their pocket bread, and I think it sounds just wonderful. I think it sounds so wonderful.

Paul: What you, reminds me of a little story. One of my good Facebook friends and I was lucky enough to get to visit her and her husband at our great homesteaders. This is Polly Goldman who's a agricultural scientist working for the USDA down in Salinas, California, and her husband basically founded the largest university farm, what you call organic teaching farm in the United States there at University of Santa Cruz, and they've got this, I drove up to their place and I said "Well, I know paradise when I get there," because of the beautiful little perfectly done homestead, so they're big homesteaders and she was interested in the [Mockmill](#) and we got her a [Mockmill](#) and she, last I guess it was Passover, she said "We're supposed to do our matzos in under 18 minutes starting with just the flour," and I said "I've done it starting with just the grains."

Wardee: That's awesome.

Paul: So, it's a lot of fun for me on this adventure meeting this kind of fantastic and interesting person and these people who are living close to nature and their conscious of food but what's more is their conscious of the Earth and part of the whole milling story, Wardee, I'm convinced of it is making a contribution to the preservation of the Earth because that 98 percent of the grain that gets made into white flour is not farmed organically. It's farmed on huge swaths of Earth. It's the same thing year in year out. It's not a situation where the seeds used at food pack to dig into the Earth and find all of the different minerals that the plant needs to survive and thrive. It's a

couch potato situation where those plants get the water they need. They get three main elements. They get nitrogen. They get potassium. They get phosphorus and that's all they get, and of course, they're looking for other things so in time, they drain the Earth of all those other things and all the Earth has left in it is too much nitrogen, potassium and phosphorus.

And so we're really, when we buy white flour, we're voting for that system. We're voting for keeping that system. Come on, let's just keep doing this until the Earth's got nothing left in it. When we go out and buy biologically, organically grown grains and that's what we certainly, we actually don't want to be milling up the other ones because we don't know what kind of pesticides and stuff they've got in. So we're going to get organic grains. There we're supporting the people who like Polly and her husband are focused on saying how can we every planting put back into the Earth something that the last thing we planted took out of it. And it's a very, very simple concept that Chef Dan Barber made very clear to me in his book and then in his different speeches. We have to learn to eat that way. We have to eat the things that are those different plantings, so we've got to not eat the same wheat, not eat the same soy beans, not eat the same corn, not eat all the same meat products meal in and meal out, but we have to get out and eat a big variety of different foods to replenish the things that every planting takes out of the Earth.

And this is my adventure. My learning at this late stage in life of going wow, I was missing all this stuff for all those decades.

Wardee: It's never too late, though. I mean, every day is new, so we, like you were saying, we vote with our dollars, so whether we have five or 40 acres to grow the stuff ourselves or raise our own pastured animals or whether we take our dollars and we support someone who is doing it, like you said, we're either contributing to it or voting the other direction. So we want to contribute to the people that are trying to make the soil better every year rather than depleted year to year. And it is possible with that kind of pasture management where you have animals and plants and you do that whole organic ecosystem. It is better actually for it to, I mean, it is possible for it to be better year to year, to get better year to year rather than depleted. So I totally agree.

Okay. Tia is saying in the comments that she likes grinding her own flour for taste and also because she doesn't have a lot of freezer

space to store flours and she likes to be able to make flours with various grains and with sprouted grains. I love that, Tia. Thank you.

Paul: That's an excellent point because we just talked about variety and there's so many different flours you could go off on that, but just stick with the point for a second. You can't afford to keep 15 different flours. You don't have freezer space and they get, you forget what you've got and all that kind of stuff, but you can very easily keep a granary with 15 different kinds of grains.

Wardee: Sure. Yeah. I mean, grains, if you store them well they keep for long time. Flour just starts degrading like we were talking about before. Or you need freezer space and then it still doesn't taste as good. It tastes like it's been in the freezer.

Paul: Most of the millers I know keep discovering new stuff kind of every couple of months [inaudible 00:25:47] what have we milled so far and then they find something new and get, they go off on that for a while.

Wardee: Right. Cool. Okay, well let's transition now to talking about baking with fresh flour. Obviously we covered the nutrition and the flavor. Talk about the texture of baked goods made with fresh ground flour.

Paul: Okay. For me personally, and I'm not really a student of this so I would say ...

Wardee: Anyone who eats it is a student.

Paul: Okay, well there you go. For me what I bake with whole grain flours has a more open texture. It has a, oh I think it kind of comes apart more easily. It kind of blossoms in my mouth as I chew it. Its sweetness comes out in a faster way. It's got a more open kind of crumb to it, if we're talking about bread, and yeah, I don't know. It just, it goes together better with the other things I may be eating with it.

Wardee: I completely agree. I think that they're lighter, fresher, sweeter. They are just superior in all the important ways when you use fresh ground flour.

Paul: Well, when it comes to taste, I think that's where all of a sudden the big difference kicks in because that sweetness you mentioned is to me a lot bigger and then there's a thing that's interesting, what I call complexity that's there, and that comes from not only all those

different chemicals being there but if you're fermenting your baked goods naturally, so you're not just taking the one yeast that Louis Pasteur found. Somebody told me the other day that it was collected from the rear end of ants but I haven't verified that, but anyway if you're not taking that one yeast, you're baking with a plethora of yeasts. You may have a couple of dozen different kinds of yeasts and bacteria, and each of them is choosing the part of the grain it likes best and doing its job on it, and it's [inaudible 00:28:03] products are what you're tasting, and so the complexity is that multiplicity of different components of the grain multiplied by all the different kinds of micro-organisms that are at work there and you get this huge symphony of flavors. Just as you get it when you've got a bunch of different instruments playing the same music.

Wardee: Great analogy.

Paul: That's to me the big taste difference. It may be that it's a more grown up taste. If people are used to, if people think that marshmallows taste good then they may not like my 70 percent whole grain rye bread or they may think it's too earthy or whatever, but that's precisely what I'm looking for and I believe that my taste buds are telling me that it's good for me.

Wardee: Sure. And I do think we have to be patient or people need to expect that there will be a transition period, like you mentioned. There's that complexity of flavor and white flour, white sugar is very simple, just strong, not strong. They're just simple in the terms of complexity tastes. Salt, sugar, white flour, you just have like one dimensional taste. Then you start using whole grains and throw sourdough into the mix and yeah, people that are accustomed to the other may have an initial, ooh, I don't like this. It's the same thing from going from conventional meat to pastured meat and the pastured meat has this wilder, complex sort of aged flavor which can come from because it's hung in the locker for 21 days [inaudible 00:29:43] a few. It can come from the diverse diet that that animal has enjoyed on pasture rather than just genetically modified corn and soy.

So, yeah, we are going after that complexity of flavor and for some people that may take some adjustment but I believe that once we kind of wean off of that just simple one dimensional flavors that we're used to, that we begin to appreciate and even then crave and like really enjoy what we're talking about with sourdough and with whole grains. So I completely agree with you.

Paul: If we can hang on that for a second, I'd like to contribute something that may be interesting for some people. When you think about it, nature gave us our taste buds, why? And what are they for? Our taste buds, what, we can detect sweet. We can detect salty. We can detect umami, which is what we taste when we eat meat. We can detect a bitter and we can detect sour, right? And so, what are those? Well, it's a reward and a warning system, so the pleasure we get when we taste something sweet, that's a reward for having found energy. [inaudible 00:30:55] wandering around looking for food, right? The salty taste that we like is a taste, is a reward for us finding electrolytes that we need to keep our blood working. I mean, without the salt then our systems won't work. The electrical impulses can't be carried through our body without salt, so we need the salt. So we get that reward for that.

We need protein and that's the reward we get when we get that nice umami taste. It's for having found protein, and we have the two warning sour and bitter and warning for us, a little bit of bitter may be nice but everything that's poison tastes bitter and so when we get a really strong bitter taste, it says oh, boy, don't eat that. And the same thing is true of sour. Sour's a warning that things are going bad, so we like the light sour taste to our sourdough for instance or to our fermented foods but if they go too far we won't want to eat them and it's our system warning us.

Well, the food industry over the last 150 years has spent all of its time and energy developing stuff to fool our taste buds into thinking that the stuff they give us is good for us, and so we get this combination of all those rewards which is lots of sugar, lots of fat, and lots of salt all combined together, and the interesting thing is that our taste buds being thrown off guard they quit telling us when we've had enough of something. But if we let our taste buds get retrained by eating only natural foods, only real foods that our great grandparents would recognize as food, Michael Palin's contribution to my understanding, then our taste buds start to tell us this is really great bread, hey, but Paul you've already had three slices.

And so I don't do the potato chip bag deal with my loaf of whole grain bread because I'm getting the feedback from my system, that's cool. And I've personally been able since I started baking my own whole grain bread to lose about 30 pounds.

Wardee: Awesome. Wonderful. Wonderful. We are getting a question from Denise. Did you say there are different kinds of yeast? What kind of

yeast should one use? If I was to answer that I would say wild yeast, a sourdough starter and it's just an ecosystem of so many you can't count bacteria and yeast. What would you answer to that?

Paul: I'd say whatever presents itself. There's a, one of the great people I've met since I've been here is my baker friend Pablo Guyet and he introduced me to yeast water which is that you make some sugar water and you drop anything that's vegetal that you would also eat into it, and anything that's vegetal that you eat is going to be covered with yeasts and lactobacillus. They're basically good for you and they're kind of hanging around on that plant waiting for the plant to generate to the point that they can get to the sugars in the plant, so they're on the outside of your apple and why does your apple start to go bad if you make a little cut in it? Well, those bugs can get to it and they go hey, sugar time. They've been waiting for that. Well if you drop that fruit into the sugar water, those bugs that are there, I call them bugs but I mean yeasts and bacilli, they start giving each other the elbow, hey, wake up, it's party time, and they consume that sugar pretty rapidly.

In so doing, they're multiplying their numbers and they give you a really great culture with which for instance to hydrate your bread and that becomes, it replaces the yeast that you would normally put in bread.

Wardee: That is so cool.

Paul: Yeah, and you can do this and of course traditional sourdough says we're just going to get some flour wet and whatever yeasts and microbacteria are on the grain, because they're on the grain, I said they're on it, and whatever is in the kitchen, whatever is on my hands when I mix it up, that's what's going to grow and there's going to be a little bit of a battle between them to see who gets to grow more and those that are more dominant will be there in greater numbers, but it's, we just call it wild yeast but what we mean is it's a naturally occurring culture that has something to do with the environment which you are. That's the yeast, that's what I use.

I've actually in my baking I've actually never used commercial yeast, and of course, I haven't been baking for long so that's not a big statement, but I've had these people teaching me these other ways to do things and that's just what I do.

- Wardee: I love that. Denise, if you are wondering for instructions on how to make a sourdough starter, you can go to [TradCookSchool.com/starter](http://TradCookSchool.com/starter) and I have a video and instructions right there for you. That is the flour and water kind. I love the tip that you learned from your friend with the sugar water. Of course, the sourdough starter that's flour and water, the flour has the sugar and it has the wild organisms so you combine it with water and they can take off and within a few weeks they're re-established. Yeah.
- Paul: Exactly. But there's all kinds of ways to ferment your grain products naturally and that is just I think I mentioned earlier, that gives you, actually not only does it give you a bigger flavor experience but the important thing is that that fermentation is slow. If you use commercial yeast it works really quickly. That's why Pasteur was sure he had made a big contribution to the world with it, but the problem with that is that the sugar molecules in the grain don't get broken down as well as they can and in a natural fermentation they get broken down so that they're more easily digestible for us. And that's another story [inaudible 00:36:52] but it's an important one to keep in mind. Naturally fermented, long fermented grain products are going to be more easily digested and they're going to make life more comfortable and probably help out the communications of those bug bacterias of the brain and all kinds of other ways keep your system running more smoothly.
- Wardee: Absolutely. You're speaking our language. That is one of the biggest things that we teach at Traditional Cooking School is the health benefits of using traditional methods like sourdough because sourdough, wild yeast and bacteria just like old fashioned fermented pickles and sauerkraut, that process makes the food more nutritious and digestible. So it's really good. So if you combine whole grain, fresh ground with those age old methods, you just have the best food possible. Yeah. Okay, so let's do some tips here. Tips for using fresh ground flour instead of store bought in your baking and so I'll let you go first, Paul, and I'll add some if I can. Unless you cover it all.
- Paul: Well, it can't all be covered by anybody, but I have some things I love to do and one is to use grain spontaneously, so I've got in my refrigerator I've got pot of sourdough that's my, I call my pancake pot and I just keep it going and every time I add 100 grams of grain to it, I add an egg and about 50 grams of milk and about a gram and a half of salt and a little baking soda. The baking soda's a trick I

learned from Judy Coil, and so I just keep that going, the baking soda tends to take the sourness off it so my kids like the not so sour pancakes better, but I just keep adding different stuff so like this week I got some teff out and toasted the teff up and then milled that and if you've never milled, if you've never tried toasted teff, two words, toasted teff. Toasted teff and mill that up and you'll have aroma sensations. It's incredible. But I even tried toasted sorghum and that had the same effect of really giving the flour a much richer, more flavorful aroma.

Wardee: Are you, can I just ask, are you toasting in a dry skillet or do you put it on ... okay.

Paul: Yeah.

Wardee: Great.

Paul: I like to dust my flour with toasted barley in our kitchen and our bakery doesn't have a hot plate so I just put it on a pan in the oven, and I have to be careful because if I'm not I'll burn it up.

Wardee: Okay.

Paul: But that works, too, so it really doesn't matter. The most important thing is to keep it moving a little bit and don't overdo it, but the grains start to pop like popcorn and then you know you're pretty much there. So that's what I would say, is mill spontaneously and then just look around and see what's there and say whoa, what if I put some of this in. Let's put some oats in. Let's add some rye or here, I don't really know much about millet. Let me buy some millet and see what happens when I use millet in some of my cooking, and without making it a huge event like I'm going to make millet bread and then you work all day to make your millet bread and then you don't like it and then you're all sad about it, no, no, no. Find a way to use it where it's kind of a low risk situation and you get to learn all these different, about all these different foods that we neglect from disuse.

Wardee: Great. I love it. So, back to your pancake pot. So, you're adding those ingredients. It's in the fridge, so it's souring. It's ready to go. So that is literally your pancake batter that you fry up for pancakes.

Paul: And it's amazing to me how much it ferments in the fridge. To me it's incredible, but that's right. I stir it up a little bit. It goes down. It

comes back up. I don't mind. When I think I've done a a round of pancakes and so I add 100 grams or 200 grams of flour back in and as I mentioned the other ingredients, it just keeps going and it's different every time.

Wardee: That's so cool. Everyone listening, that was a gem right there, so whoever heard that, you got the good stuff right there. Love it. Well, I'll add a couple tips. This comes up a lot. People are using store bought flour. They start grinding it from scratch, but then what do you do about all those recipes? Because most recipes today are written for store bought flour and it settles over time. Now if you are following a recipe that has called for sifting, that's different because that'll lighten it back up but the idea is that your fresh ground flour is very light and lofty. It has not settled because it has just been ground, so you want to use less, I'm sorry, you want to use, okay, I'm getting mixed up in my head.

It's fluffier, so it's actually less flour than a recipe that's written for store bought flour that's settled. So you need to use a little bit more fresh ground flour than store bought flour. Right, Paul?

Paul: Well, yeah. I'll put on my stuffy European hat and drop the M bomb that's called metric and I'll say learn to cook with ...

Wardee: Learn to measure.

Paul: ... weight, by weight. Forget those cups. Forget those spoons. Get yourself a good digital scale that costs 20 dollars at your local store and if you want to go to one that's actually denominated in tenths of a gram you're going to spend a good bit more money but you'll be really happy.

Wardee: Sure.

Paul: And start to weigh what you're measuring out. It's very, very easy to convert yourself. Figure out, okay, how much does a cup of this that I've been using weigh and then you'll find out it's a lot easier to cook that way, and so in that sense, you get around the problem but you're right. I think I read that somewhere just yesterday that a cup of all purpose flour weighs 140 grams. Well, actually if you measured one and I measured one and somebody else measured one we'd get a 145, 140 and 135 or something, but I for instance have used for a while 100 grams per cup of freshly ground flour and some people tell me that's less dense than what they get. They get

more like 120. So, and it really matters which grain you're using, how coarsely you ground it, maybe even what the humidity is in your environment on that particular day, and that's where cooking by weight takes all the guesswork and all the mystery out of it.

Wardee: Yeah. Absolutely. We do include weights in all our einkorn recipes in our einkorn baking e-course for anyone who's listening because in our family we have transitioned to weighing out our recipes as well, but I do know there's so many people out there who haven't so that is a general tip just to help you understand transitioning your going to end up using more flour by volume not weight of course but more flour by volume of fresh ground than store bought that's settled. And once you, if you start weighing document, write on your recipes so then you can, when you get it right, you can replicate it, or if you find out it's too dense or too dry then next time you weigh less and it's a learning process.

Paul: We actually, we say to people when we're talking about weight by the way, just use the same weight of freshly ground flour as you would of white flour. See what happens and then that's the easiest thing, but above all don't be fearful and don't consider it a big deal. Sure there'll be some differences. You'll notice that and if you find your dough is too wet, you'll put in a little more flour, but above all, no, I would say no worries. My Australian friends always say no worries, and I think that's the most important thing. Be certain of one thing is that you're doing yourself a favor, you're doing your family a favor. You're doing all those people who are out there working hard to produce these identity preserved grains a favor and you're doing the Earth a favor.

Wardee: Absolutely. That reminds me, we were watching a cooking show the other night and this lady was making, I don't know, it was a sponge batter or frosting or what, and she said "I know this would be so much faster and easier if I did it in the mixer, but I got to feel what this is like, and I know it's going to take me longer," so she's holding this big huge bowl and just whipping it and she's like my arms are getting tired, but she said "I have to know what that feels like because I can't make it if I don't know this." And so yeah. I mean, Paul's advice is great. Don't worry about it, and my advice be hands on and nothing is, I mean, everything's redeemable. If you get too dense of bread, it's croutons or bread pudding. You can, it's still good food. And it's way better, so be willing to make mistakes and learn. Learning is often more important than what you get out

of, what you actually put in your mouth. Not completely true, but you get the idea.

Well, let's talk about the [Mockmill](#) now because we're nearing an hour and I want to make sure we get to it. I'm going to share my screen here because I'm going to show everybody a picture of the [Mockmill](#). Let me know everybody if you can see that. I don't know if it's going to come up on Facebook. So here's the [Mockmill](#). Can you see that, everyone on Facebook? I think it's coming up there. Okay, so Paul, could you talk to us first about Wolfgang Mock who is the maker of this mill and just maybe just a few minutes on his background and why the [Mockmill](#) exists today and how we got here?

Paul: Really quickly, Wolfgang received on his 29th birthday a present of a loaf of bread from a friend of his, wondered what in the world is this all about, had to be polite, cut the bread open with his friend, took a bite and changed his life. He said "Well, I've never had bread before," and he learned that his friend milled his own flour and so that very week he started learning how to make bread milling his own flour from his friend, and after a year or so he was kind of tired cranking this mill that didn't belong to him anyway and he went out to try to find an electric one that would make the job easier and he couldn't find one he liked. He found mills that kind of blew the flour around and he didn't want anything that was blowing flour around, so he said no, no. We've got to make our own and he actually, together with a friend built the first mill in his kitchen and long story short, his work as a psychologist working with autistic kids became less and less important to him and the idea of better and better mills more important.

And so Wolfgang for 40 years you can say has been working on building a better and more affordable mill because he'd like to have everybody feel as certainly they can afford to own a high quality mill that makes flour from whole grains that any baker would be proud to bake with. So that's Wolfgang's story, and by the way, on our website maybe Wardee can make the link available, there's a nice story about that called the Making of the Mill Maker and I'd encourage you if your interested to give that a read. But anyway, the mills you see there are Wolfgang's latest work over the last five years in making mills affordable because this mill that would deliver flour like this used to cost 500 dollars and upwards.

And he just felt that was too honest when people would say I can't afford that, not this year anyway, and so the mill in the background you see that it's mounted on the Kitchen Aid is the little [Mockmill](#) that was the first real high quality stone mill to be available for under 200 dollars, and the idea was we can use the motor on the Kitchen Aid and people even with small apartments and so forth don't have a space problem and this mill will make great flour and indeed, when I took it around to places like Washington State University's bread lab or I took it to bakers like Craig Ponsford who had led the US team to win the World Championship of Bread Making in Paris, they all said "Can't believe this flour. Just is amazing," and they all took these little mills home to use at home when they were baking for their families or experimenting with new recipes.

So that's the little [Mockmill](#) for stand mixtures in the back. But what of course we knew is we were kind of limited to selling that for a couple of years is that it's slow. It produces about, oh about an ounce and a half of flour a minute and if you want to make a good bit of flour you're going to probably put too much stress on your Kitchen Aid so there's some limitations to that little mill, although I still love mine and I take it with me wherever I go because I can always find a Kitchen Aid somewhere and then I've got my mill with me. Anyway, in the front you see the [Mockmill](#) 100 with the little green dot behind it, the [Mockmill](#) 200 with the blue dot. They're in exactly the same casing. The front one is really kind of, think of it as our model T mill. That's our Henry Ford mill. That's the mill that absolutely everybody can afford and it's just, will do a great job of milling anything that you want to mill that's not basically oily or basically moist, okay?

And so that's the mill that we all now have in our kitchens. That's what I use everyday. That's what I've baked five loaves of bread this morning using and made the dough yesterday using that mill. Behind is the [Mockmill](#) 200 that's got a stronger motor in it and a more aggressive set of stones. More aggressive means it grabs more grain faster and puts it through. That way that's great for people to make a lot of bread. It works twice as fast as the other, and that means that it's running for half the time and let's say the, let's be honest, the conversation stopping noise that goes on when you're milling goes on for only half the period of time.

And that's the [Mockmill](#) 200. So that's it, and these mills are designed so that everybody can say right, this is a good thing and

we'll just skip something that otherwise we like to do this month and we can afford it, and that's the deal. And as far as the 200's concerned, anybody who's professionally involved in a food preparation business, they've got something that will mill almost all their dry foods for them. It'll do wonderful spice mill and stuff. People hate in a professional kitchen, hate to mill peppercorns. Hey, this chews through them. You won't believe it and then you just drop a little handful of rice in behind it. You've got some peppery rice and the mill's clean.

Wardee: Yeah. It's amazingly easy to clean. I'll just interrupt and let you know how much I love the [Mockmill](#). Our family milled with a [Vitamix](#), a high powered blender for ten years and then I started using an Impact mill which gave me fine flour but couldn't crack things, couldn't crack grains, it was only flour, very loud. There was dust. Flour was warm. Now using the [Mockmill](#), I really believe that stone is the way to go. You get a cool to the touch flour, a fine grind and versatility with all the grains and beans and dry spices that you can grind as well as being able to crack grains, so I absolutely love the [Mockmill](#). Gets my highest recommendation, and there is a link there for you on the screen, but you can also type this into your browser or I'll paste it with the video when we're done. [TradCookSchool.com/mockmill](http://TradCookSchool.com/mockmill), and we want to let you know about some additional bonuses and information that comes with your mill. So do you want to address the two guides now, Paul?

Paul: Yeah, our team has done what I think is a really good job in answering a couple of essential questions. Gee, how do I get started baking with fresh flour? And here are some nice idea recipes that have been donated to us from some of the absolute leaders in the wholesome baking community in the United States. So, some tips on what you can bake from some really key people there, and then what's really important where am I going to get my grains, because you won't find them in every grocery store. By the way, you will find millable stuff in every grocery store. Now every time I go to a store I go and look for what they've got that's millable and you discover some pretty neat stuff, but here you can use this e-book to look up some addresses.

I've had the pleasure of getting to meet most of the people who are shown there, and these are all extremely hardworking people who are really focused on that story of providing people with a better food than has been available for the last few decades, and doing so

in a way that preserves the Earth and actually tries to get back some of the stuff that's lost there, so those are all really hardworking great salt of the Earth people from whom you can get online or if they happen to be in your area, fresh grains.

Wardee: Great. And if anyone's interested in seeing how this mill operates, I've been demonstrating it in my weekly podcast all through the month of November, so [AskWardee.tv](http://AskWardee.tv) we have two episodes ready for you already. One with gluten free and one with just the basics of grain grinding, so it'll show you how the mill operates. It's super easy and it makes great flour and additionally for a limited time I'm throwing in some extra bonuses for anyone who decides to purchase the [Mockmill](#). They are two of our e-book and video packages, Sourdough A to Z and Einkorn Baking. Einkorn is the oldest variety of wheat. It's a 5,000 year old variety of wheat that's gentler to digest with the gluten and the starch and we love it especially combining it with sourdough, so those two recipes e-cookbooks plus a whole bunch of videos are a bonus from me, valued at 128 dollars with your purchase of the [Mockmill](#), so basically you use [TradCookSchool.com/mockmill](http://TradCookSchool.com/mockmill) to order your mill. Then you can claim your extra bonus from me. It does come from me, the things that Paul was talking about, you'll get delivered with your mill, but if you want my e-books, you need to go to [TradCookSchool.com/millbonus](http://TradCookSchool.com/millbonus) all one word to get those two.

And yeah, check it out at [AskWardee.tv](http://AskWardee.tv) to see how it works or if you have more questions kind of about the basics of milling. The very first episode I went through the different types of mills and why I think stone is great and this is, put the picture back up, it's just a wonderful mill. Maybe we could take a couple minutes for questions, Paul?

Paul: Oh, I'd love that.

Wardee: Okay. So, my first one is from Barb who says she ordered her [Mockmill](#) last week. Yay, Barb. And it ships out tomorrow. Can't wait to start using it. Her question is can I use the fresh ground flour to make pasta? What do you think, Paul?

Paul: Oh, you'll love that. In fact, what I've been told by other people who are promoting fresh milling is it's really with pasta that the difference in the flavor that you have with fresh milling really comes out. I would say to go ahead and take a look at you can make your pasta from anything, any grains you like. When I visited Theresa

Greenway, I guess about a month and a half ago to bring her a [Mockmill](#), she said well, let's mill up what I've got here and let's make some noodles and we had wonderful homemade chicken soup and noodles that she made while she was talking to me. So it works really well, but you've got some great things, kamut is a great grain for noodles. The Italians buy a whole lot of that but you can have a lot of fun experimenting with the different things you can do.

Wardee: Yep. It's great.

Paul: We've got a, I think we've actually got a recipe for pasta, at least a basic one for sourdough pasta that are available to [Mockmill](#) users.

Wardee: Great. Okay, another question is from Beverly who's saying she and her husband both love bread but they have, she has thyroid disease so they're looking into gluten free flours and wants to grind her own. So, I would answer that and say that Beverly, check out Ask Wardee last week. It's episode 98 where I demonstrated grinding gluten free flours. I showed you how to run rice and quinoa and amaranth and teff just right through it and make a blend and I talked about different kinds of blends because if you're looking into gluten free, gluten free works really well grinding it with the [Mockmill](#) and the more different grains you can put into your blend the better your results are going to be with like whatever you're baking, and so gluten free is definitely one of those things with thyroid that they say to do, so weight that out and test if it works for you, but you definitely can make a lot of gluten free things using this mill and milling it yourself because specialty grains are, specialty flours are more expensive so if you can acquire the whole grain organically in bulk, you're going to save money on the grain and easier time storing it, then be able to custom make your blends so you're saving money, you're getting a better and a healthier result overall.

So I'm really excited for you. I think it's exciting. Would you add anything to that, Paul?

Paul: No, I think you've covered all the points. It's great.

Wardee: Okay. Great.

Paul: So glad that you're doing that work because if anybody needs fresh milling it's the people who want to go gluten free, and you're covering that [inaudible 00:59:36].

Wardee: Yeah, there are so many, so many. So Debra, that is going to be, to answer your question as well because you're asking about thyroid, so look into the gluten free. Go ahead, Paul.

Paul: I would say one point. If you are really going gluten free, particularly if you're a celiac patient then you know this, but everybody else should know it, too. Write gluten free across that mill and don't ever put anything else in it.

Wardee: Yeah. Right. Right. Absolutely. Elizabeth is asking, she says she's going to order very soon. She wants to know about the differences between the Kitchen Aid attachment and the 100, particularly in terms of fineness of the flour.

Paul: Well, I think the 100 is going to give you a slightly finer flour. What I point out is that the Kitchen Aid attachment and it's near and dear to my heart is a great tool. It's especially good if somebody says ah, I don't want another footprint in my kitchen or I don't have space and if they're already got a Kitchen Aid and if they're a smaller household so they don't have six kids running around that they're baking stuff for, that's a great tool. If you intend to use flour, a cup or two cups at a time, hey, that will probably work really well for you and the difference in fineness you probably wouldn't notice quite honestly although if you ask me, I'd say the motorized mills will give you slightly finer flour. All that being said, you're a serious baker and you look forward, you say I could be baking more than I am today and so forth, I'd say spend the marginally additional sum, you've got space on your counter, and by the way, the electric [Mockmills](#) don't take up a lot of space, and ...

Wardee: No. Low profile.

Paul: ... I think they look nice. I'd be interested to see what other people think, but then I would say I'd go the extra few dollars and buy the [Mockmill](#) 100.

Wardee: Yeah. That's great. So for family cooking, higher volume or if you really want the just marginally additional fineness and/or the speed, the 100's going to be better than the Kitchen Aid attachment, but the Kitchen Aid attachment is great for low volume, small families.

Paul: Yeah.

Wardee: [inaudible 01:01:54], Paul?

Paul: Yep. Space constrained people.

Wardee: Great.

Paul: It has a few little tricks that are neat. It's the only mill on the market that we know of that you can adjust the speed on, so if you want to go slower you can. In so doing you can do some things you can't do with the big one like you can make really great confectionary sugar out of your organic sugar, and you can't do that on the big mill. It's turning too fast and it just gives you a, it doesn't work whereas the little [Mockmill](#) does a great job with it, so it's, as I said, it's near and dear to my heart. It's certainly a valuable tool.

Wardee: Yeah, and I could see where if there were families that were doing gluten free and gluten milling that they might want to have a Kitchen Aid and then the counter top and so then they could do separate and they would also have some extra benefits like you were talking about.

Paul: Yep. I agree totally.

Wardee: Yeah. Okay, Cindy is grinding in a Ninja and her grain stays coarse. Will the flour be lighter when milled in the Mock? Well, I haven't used a Ninja but I've used a [Vitamix](#) and a [BlendTec](#) and I think those are probably finer than your Ninja would do, so I'm going to say absolutely your flour will be finer with the [Mockmill](#). What would you say, Paul?

Paul: Well, I think Wardee, you've done a lot of work on what kind of mill to choose and you've said well, we'd like to hear stone milling's the best. Let's remember that the stone mill is one of the oldest tools known to man. I looked this up the other day. It goes back they think 30,000 years man's been milling grains with stone. The kind of blade pulverizer is something pretty new. It goes at very, very high speeds and it whacks the particles continuously. The grains go through our mill very, very quickly and they're done. They don't get beat up for the period of time that you're milling, which is what happens with those. I just say to people, okay, if you want to make flour, we've got this stone mill. I can guarantee you I'm not going to use my stone mill to make smoothies.

Wardee: Right. Right. Right. Yeah. Well, I've been on the other side of that fence and I'm so glad I have the stone mill. Okay, I don't see, unless I've missed it, I think, well, okay, this is a question from Dustin back

to the vegetable yeast water ferment thing you were sharing. Dustin's asking how long do you typically let that vegetable yeast water ferment?

Paul: I use Pablo's method and what he suggests is to take whatever vessel you're using, let's say it's a Mason jar. You do it about half full. Let it go for three full days and on the fourth day replenish it but whereas we had ten percent sugar water at the very beginning, then only from then on replenish with five percent sugar water, and then that means that on the eighth day your culture should be good to use, and it's really easy to test it. You just taste it and if it doesn't taste sweet then it's done. If it still tastes sweet then you've given the bugs more food than they've been able to consume and either the culture's not happy or you put too much sugar so you just got to wait til they do their job, but basically it shouldn't taste sweet.

Wardee: So it really reminds me of a ginger bug which is the basis for making a homemade ginger soda. Of course, in that, it's a sugar water where you add ginger and you're kind of ...

Paul: That's exactly the same thing. That stuff would make a wonderful starter for your sourdough, and in fact, so will natural apple juice that you let go too far. The problem with the natural apple juice or grape juice which is on its way to becoming wine if you think about it is it's got too much sugar in it, so it's contributing a bunch of sugar into the bread which isn't a bad thing but I suppose that the bugs are going to keep going for the sugar molecules in the dough then instead of going more for the grain molecules, so we tend to make sure that whatever we're using is soured out. It's the sugar, it's basically got very, very little sugar left in it.

Wardee: Right. All that needs to be eaten up. Yep. Okay.

Paul: [inaudible 01:06:18] I do say there's lots of information on the web. You just start looking at the buzz words, yeast water, and it's a whole different thing but the point is this takes you into a world of adventure where you can really have lots of fun.

Wardee: Unlimited adventure. So many things to do. Sherry's asking about Whispermill versus the [Mockmill](#). So Sherry, the Whispermill is an impact mill I believe, so similar to the Nutrimill and the differences between it and the [Mockmill](#), number one, versatility. So, the Whisper mill or Nutrimill, the impact mills, they're only going to do flour. The [Mockmill](#) will do your flour. It'll do flour and it'll crack

grains. Another difference would be what kind of things you can do with it, so the [Mockmill](#) is going to do other things like your dry spices and non-oily things. Additionally to grains it'll do beans and spices and things, and another difference really is the flour dust, so the great thing about an impact mill is you do get very fine flour, but because of the impact under which that flour is produced you get a lot of fine dust in the air and around your surface which can be an issue for people with respiratory issues. Those are the big differences I can think of but basically for our family it comes down to the versatility. We can do a lot more with a [Mockmill](#) and still get fine flour.

Paul: I had a impact mill user say to me on the phone today. [inaudible 01:07:53] He's bought a [Mockmill](#) now because what he hopes, he says jeez, he says that when I grind flour it's a big job so I tend to make a lot and then try to store it and what I'm hoping is I can mill just what I need for right now just in time, that the mill would be that convenient for me, and I think the [Mockmill](#) actually will do that for him. But in positive terms, it's important to remember, too, that it takes about 15 seconds to open the [Mockmill](#) up, take a look inside, see how it's doing in there, brush stuff off if you like to, and make sure everything's fine and dandy. I do think those impact mills have to be, have a closed milling chamber that you can't inspect, and I think there's, although I wouldn't say that's a problem, I as a consumer would be concerned using one.

Wardee: Sure. And the impact mill before you use it, you do need to pull out the bucket. You need to clean out the filter thing because that can get all full of flour and so then your next run you won't get the proper filtering, so it'll just build up and sort of spray all over your kitchen. That's happened. So, even with that you need to spend 15, 30 seconds to get it ready to do a batch. But I do think the [Mockmill](#) is more instant. I mean, it's just on the counter. It's so attractive. You turn it on and put the grain in and it spits out. I don't know. It just feels that way. Let's see. Are there any more questions?

Oh, there was a question. Okay, Debra. Are your milled flours able to be used in a bread machine or will the dough be too heavy and need a regular oven?

Paul: Help, Wardee, help.

Wardee: Okay, Paul. I'm going to say it's no different. You can use fresh milled flours in a bread machine just like an oven, so in fact, you

probably get better results if you're already used to a bread machine and a recipe. Make an adjustment for the lighter flour but your bread will probably turn out better because fresh milled flour just always turns out better. What do you think, Paul?

Paul: Well, I think I like that answer. I'll remember it so next time I hear the question and I'm alone by myself I'll say a very learned person answered that question by saying ... Because I just don't have any experience with bread machines so I'd have to pass.

Wardee: I do from a long time ago before I started using sourdough and I was using baker's yeast. I would mill our own flour and I would use the bread machine to do the kneading and the rising and then I would stop it before it baked and I would dump the dough into a regular loaf pan and bake it in my oven, so I got the regular loaf pan look but the bread machine did all the work, but I've never figured out a modification for sourdough because the bread machines are all the baker's yeast timing which is really fast. It's not like overnight souring.

Paul: I don't know much about that but I do know that everyone who I know who bakes talks about the mystique of baking about, I always say there's a bake day and a non-bake day and bake days are always better, and I love the feel of the dough. I love touching it and I love folding it and I love scraping it off my fingers and I love when my little boy comes running in and says "Daddy, can I have a taste? Can I have a taste? Can I have a taste?" And so, I worked with a Kitchen Aid for the longest time milling, but I never used it for mixing interestingly.

Wardee: Yeah. Well, dough. I mean, I'm with you now. I love kneading dough. I love to feel it. I got over that desire to have the bread machine do all the work and I've been doing my own for a long time. Yeah. This'll be the last question because we are over time. We need to let Paul go. Beverly, when grinding your own flours and making sourdough, how long do we have to wait to use the flour in our starter or when making the bread? I've been told I need to wait a week after milling. What's the truth about this?

Paul: Oh, I'm glad I get to answer that one. I'm looking forward to a visit next week from the man I think to be the most learned on this topic and I actually went to him a year ago and said, I wrote to him and I had this list of questions like this one, and I said I want to be able to answer these in an authoritative way and I don't know how to find

the answer in the literature, so please, and so he invited me to his lab at Oregon State University, this is Andrew Ross, and when I got there he had the ovens going. He'd been there obviously for hours and he had 24 loaves of bread in the oven, and he said, well I baked bread to answer each of your questions. Anyway, so at the end of the day the fact was that it didn't make any difference at all how old the flour was. He had some that had been in the freezer for a year, some that had been milled a couple weeks before and then the flour [inaudible 01:13:06] fresh [inaudible 01:13:06].

What he explained to me is this notion of aging flour has to do with the prioritization of consistency, what the bakers call consistency, and if a professional baker has got a, he's making hundreds of loaves of bread a day or thousands or tens of thousands or sorry about this, hundreds of thousands a day, he wants to get the bread to be the same every time he makes it. He can't afford to have it be different, and so he wants his flour to always be the same and the industrial mills work very hard at delivering a product that's going to behave the same way because otherwise they'll get a call from the bakery saying your flour's not working. And Andrew explained to me that that's fine and dandy but what happens is so you age it because the starting point in terms of let's just call it potency of flour is very, very different depending on the grain itself, on the climate in which it was grown that year and lots of other things, and also on the humidity in the room on a given day, and so you get a large variance in terms of potency of different loaves and lots of flour.

But if you leave them stay for about three weeks, they oxidize, so they start to die. You get that degradation we were talking about that's going on and as they do, they come to a common point after a number of weeks of deadness if you like. This is his words, not mine. Okay, and so what the aging is for is to kill the flour enough so that all of it's the same. Now, he says that comes to the detriment of nutrition and it comes to the detriment of flavor. You prioritize consistency and you say we're not too worried. The flavor difference won't be that much. The rest of it, who cares? When you bake with fresh flour, you're putting flavor and you're putting nutrition at the top of your priorities list and you're accepting the fact that today's flour is going to be a little different from tomorrow's flour even if it's the same grains, and your bread may be a little bit different. That's the fact. But the priority you're placing on it, and I think your family if you ask them would say well, really I prefer to

have bread that tastes as good as can possibly taste and is as healthy, as good for me as it can possibly be and I'm not too worried about whether it's a quarter of an inch higher or lower than it was last week.

Wardee: Right.

Paul: That was Andrew's answer and I have to say that I'm after him to get that in a publishable form because I do think there's a lot of misunderstanding on that point.

Wardee: And she's also asking about starter, so if I could address that because there are people that talk about, if you have a sourdough starter to feed it old flour because the fresh flour will have bacteria and yeast that will compete and whether or not that's true and maybe it is true, I don't know, but I have always made starters with fresh flour. I feed starters with fresh flour. If your sourdough starter is a strong culture that competition is nothing to it, so you do not have to let your flour be a week old after milling to feed your sourdough starter or to use it in a sourdough recipe. Would you agree with that, Paul?

Paul: Oh, absolutely. Absolutely.

Wardee: Okay. Often if you buy purchased like dried starters they will say use old flour to feed it. I have revived them with fresh ground flour. I've not used old flour. Maybe that's like technically to cover the bases they give you those instructions, but if it's a strong culture it's my belief that it can withstand the wild organisms that are on the flour. So hopefully that was helpful, Beverly, and what fascinating information from your friend at Oregon State and the fact that he baked all those loaves [crosstalk 01:17:16] question.

Paul: I was not ...

Wardee: It's called over and above.

Paul: This is how you answer all your questions, and they were questions were simply really important to me because people ask me questions and I don't want to give answers since I haven't done any research in my life and I've only been baking for a short time. I don't want to provide answers that are just what I'd like to hear coming, and so this has been my privilege to meet such people and I have to say that this whole community of, I'm going to say the grain

community, has been unbelievably receptive to what we're doing and supportive of our objective to see, and we say it, to see a grain mill in every kitchen in 20 years from now.

Wardee: Yeah. Well, you're doing a wonderful service because we didn't have the option of the [Mockmill](#) even up til recently, so you're making the trade off between okay, only flour or it's too hot or it's too expensive, but now we have inexpensive, versatility, fine flour, cool to the touch. I just think wow, this is what we've been waiting for for so long, so I really hope everybody, I mean, take action if you can or put it on the back burner and add it to your Christmas list but the [Mockmill](#) is really a wonderful, wonderful mill that I don't think anyone will regret and the information is on the screen. [TradCookSchool.com/mockmill](http://TradCookSchool.com/mockmill) which will give you a lot more information about it. To claim the extra bonus from me you go to [TradCookSchool.com/millbonus](http://TradCookSchool.com/millbonus) after you make your purchase. You'll need your order number, receipt number to enter that into the claim form, and what's not on the screen is [AskWardee.tv](#). We're doing a whole series on home grain milling, the basics, doing it with gluten free, specialty, making adjustments in your recipes so be sure to check that out. That's the whole month of November. Paul, do you have anything else to add before we close?

Paul: Not except to say that I'm really grateful for the opportunity to be here with you today, Wardee. I'm following and also learning from your podcast. I think this is the great thing, too, that we learn from each other.

Wardee: Absolutely.

Paul: And I thank everybody who tuned in for their attention and all those who will listen to the podcast later on.

Wardee: Yes. Well, thank you to you, Paul, for sharing your passion and your wisdom and your knowledge with us. It's been a pleasure to hear about you and your wife and your work with Wolfgang Mock and thank you to everyone who has been here either coming and going or here the whole time. We hope that you found this a blessing. It was really fun to do, and I just thank you so much, Paul.

Paul: It's been a real pleasure, Wardee.

Wardee: Thank you. God bless you all. Bye-bye.

Paul: Take care. Bye-bye.