

THE CANELO CHRONICLES  
*Connecting people, culture and nature*

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Posted on Sunday, November 4, 2012 by [BILL](#)

## THE RETURN OF WHITE SONORAN WHEAT

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"Molino Harinero" in Oquitoa, Sonora.

"The abandoned flour mills throughout Sonora," said the Mexican anthropologist Guillermo Nuñez Noriega, "are the equivalents for Sonorans of the pyramids in Central Mexico." Fulbright Fellow Maribel Alvarez of Tucson pointed out that although this comparison may seem lopsided, given the monumentality of the pyramids, it clearly communicates the central role that wheat has played in Sonoran culture.

By the end of the 19<sup>th</sup> century, there were close to 60 flour mills operating in Sonora. Wheat production continued to flourish as a part of Sonoran daily life until multiple factors brought about their demise. In the mid-1960s when Conasupo, an agency of the Mexican federal government, instituted aggressive regulatory practices that in a very short period of time, that contributed heavily to the closing of the majority of the Sonoran mills. Another factor that cannot be overlooked was the rise in prominence of the cattle industry, it became more profitable to grow alfalfa and "salvado" for feed. -Other contributing factors included the 1950s drought and loss of water power; the Green Revolution and the switch from wheat to winter export vegetables once dams were put in place; and the buying up of all the mills by GAMAZA or whatever the Pan Bimbo /Wonder Bread company is called. Today, only ruins of these once prosperous mills remain.



“Molino Harinero,” Penasco, Sonora just on the outskirts of Magdalena.



Mill equipment, Huepac, Sonora

Over the years, I have found these mills irresistible photographic subjects . Without any particular outcome in mind, I began accumulating photographs of the various mills scattered along the Rio Sonora Valley. It wasn't until this year, when my friend Gary Nabhan, noted agricultural ecologist, ethnobotanist, and writer about the plants and cultures of the southwest, invited me to be part of a two-part project; photographing what remained of flour mills in the American Southwest and northern Mexico as well as photographing current day efforts to reintroduce heritage grain varieties, specifically White Sonoran Wheat and Chapalote flint corn. [www.garynabhan.com](http://www.garynabhan.com)



"Molino Harinero," Terrenate, Sonora, just north of Magdalena.



"Molino Harinero" Ures, Sonora.

Many of those photos became part of a traveling exhibit that is currently on display at the Pane Bianco restaurant in Phoenix. Several I already posted earlier in the week in the post I did about the iPhone. It is notable that those iPhone images printed brilliantly at 16×20.





Sonora's famous "tortillas sobaqueras" being made in Ojo de Agua, Sonora.



Interior of "molino harinero" Huepac, Sonora

This is not simply a story that reminisces about the past, for me, it represents a time of transition when the type of wheat that humans had been part of human civilization for thousands of years, took a dramatic turn and became something significantly different.





Diesel engine, "molino harinero," Banamichi, Sonora

Around the middle of the last century, Norman Borlaug conducted seed-improvement experiments in southern Sonora that were the beginning of the Green Revolution. But the modern hybrid wheat that began its development in that era bears little resemblance to the old heritage or heirloom grains. At first glance, most of the changes and developments seem advantageous. It is 2 ½ shorter, supports a bigger head of grain, grows faster, is resistant to drought and fungi and in end, yields substantially more. But these advantages did not come without a cost. Modern hybrid wheat has been genetically modified, hybridized, crossbred and also contains a whole set of proteins that are not found in the parent plants. Despite the advantages gained, it has come under increasing criticism as being a major contributor to many problematic diseases, notably diabetes and obesity, and it makes little difference whether it is organic or not. In contrast, there is a growing body of evidence that suggests that the older heritage or heirloom varieties may be free of many of these disadvantages. This is not the place to discuss this in more detail, but trusty old Google will yield lots of related information on the subject.



White Sonoran Wheat, Native Seed/Search farm, Patagonia, AZ

In other words, modern efforts to bring the heritage varieties back into circulation signify much more than quaint efforts to save old varieties of seed and some cool old buildings. The photos of these old mills are a statement about a time when the production and processing of regionally adapted heritage grains was an integral part of vibrant local economies, where businesses and individuals could go directly to the mills and purchase fresh flour for their use instead of month's old or year's old bagged flour, most likely from areas other than where they live.

The number of organizations and individuals dedicated to these efforts continue to grow around the country. For example, this year in southern Arizona, a collaboration of farmers and organizations, that included [Native Seeds/SEARCH](#), the [Community Food Bank of Southern Arizona](#), Hayden Flour Mills, [Santa Cruz Valley Heritage Alliance](#), [Cultivate Santa Cruz](#), [Tubac Historical Society](#), [Amado Farms Joint Venture](#), and [Avalon Organic Gardens and EcoVillage](#) joined together in an effort to make heritage grains once again a significant part of regional grain production. As a result of this year's efforts, a most successful harvest resulted.

To fill out the collection of mill photos, Gary and I traveled to western Sonora during the late June, without dispute it is the most dreaded time of the year to be there due to the intense summer heat. However, within our circles of friends, there are always other foolish people willing to do the same. We made it a group adventure that included our mutual friend Dennis Moroney of the 47 Ranch and the Sky Island Brand, producers of natural grass fed beef, lamb and goat, his intern Marion Daguane from France, Gary's intern Caleb Weaver and his partner Annie Silverman.



French cowgirl Marion, Dennis, Caleb, Annie at the Penasco mill, Magdalena, Sonora.

There is probably no need to point out that we were not disappointed when it came to the temperatures we encountered. Bleached white mid-day light, when the temperatures exceed 110 F, heat radiating from the pavement, is something special. It has a distinct look and feel all its own. Clearly, it's not something that I would seek it out without reason, but I have to admit, there is something kind of magical about that summer heat as it approaches monsoon season. Come afternoon, the cloudless sky of the morning can yield tall beautiful thunderheads that tease of rain in near future (one hopes.) Retreating into a tiny air-conditioned seafood restaurant during the heat of the afternoon for a shrimp cocktail and a cold beer is reasonably



good antidote.



Caborca, Sonora, mid-day June.



Afternoon seafood, Magdalena, Sonora.

Late August, Athena and I traveled with Gary to Phoenix to photograph the old Hayden Mill that is located next to the Salt River that once upon a time powered the mill. Once again, no disappointment when it came to the heat. Our first stop that morning was at the restaurant Pane Bianco to meet Marco and Chris Bianco, who as restaurant owners are playing a dynamic role in the revival of these heirloom grains by making them a major part of their regular menu offerings, including their pizza and bread, that are considered to be some of the finest in the country. The Bianco family currently has three restaurants in the

Phoenix area – Pane Bianco, The Italian Restaurant and Pizzeria Bianco – [www.pizzeriabianco.com](http://www.pizzeriabianco.com) By all means if you have a chance to eat at any of their restaurants don't pass up the opportunity.



Marco Bianco with his mother Francesca and some of their signature bread.

Marco played host, touring me through the restaurant and bakery while Gary interviewed his parents. In the back of the restaurant, there was a beautiful small scale stone mill that I came to learn was the property of Jeff Zimmerman and his daughter Emma, who purchased the brand name, "Hayden Flour Mills" to market their products under that label and to tell the story of early wheat production in Arizona.



The stone mill of Hayden Flour Mills located at Pane, Bianco, Phoenix.

The original mill operated in Tempe, Arizona from 1874 until 1998. When the Hayden Mill opened it was one of 23,000



mills in the United States, in 1998 when it closed, only 201 mills remained with four companies producing 70% of the volume. [www.haydenflourmills.com](http://www.haydenflourmills.com)



The Original Hayden Flour Mill, Tempe, AZ



Original milling equipment from the Hayden Flour Mill

Jeff and Emma are working with local farmers to grow heritage grains on their existing farms and in turn, mill and market them under the Hayden Mills label. They package the flours themselves and sell them at local outlets, but the majority of the flour is now the base for the Bianco's award-winning pizza dough's, breads and most recently, the polenta and meatballs dish served at the Bianco's new "Italian Restaurant." The Hayden Mill flours are currently sold at the front of Pane Bianco, as well as at the [Singh Family Market](#) on Saturdays, the [Downtown Phoenix Public Market](#), and FnB's new [Bodega](#) market. The classic old style stone mill allows Jeff and Emma to grind their flour as fine as they need for a variety of uses, and to fill specific orders as for the chefs at Bianco's Italian Restaurant who like the polenta so coarse it takes a couple extra hours to cook.



Happy customer Athena leaving Pane Bianco with an armload of riches.

A couple of weeks ago, at Gary's home in Patagonia, AZ, I was able to spend time with Jeff Zimmerman and Marco Bianco, making pizzas in a wood-fired clay oven that was built during a workshop I led last June. It was kind of fun to have the miller, the baker and the oven maker all together at the same time. To be honest, I've never been a great wheat enthusiast, bread has never been something that got me particularly excited. I do admit, really good artisan bread I do appreciate. However, the dough the Bianco's use to create their focaccia, bread and pizza give new meaning to those words. In every respect, they are "to die for." Perhaps it has something with their grandfather's starter.





Marco Bianco with an absolutely delicious pizza and a touch of Mizuna greens.

Once again, these prints are currently hanging in the Pane Bianco restaurant in central Phoenix and I have to give full credit to Richard McBain and staff at Centric Photo in Tucson for the superb job they did printing and preparing the photos.

[www.centricphoto.com](http://www.centricphoto.com)

To close, I want to thank everyone else that played a part in making this short piece possible, specifically those about whom I wrote. I love learning and being a part of exactly this type of innovative and revolutionary effort.

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#### Comments (16 RESPONSES)



**Jon Bollin** says:

MONDAY, NOVEMBER 5, 2012 AT 2:38 AM

Most excellent! Thanks for this Bill.

[REPLY](#)



**Bill** says:

MONDAY, NOVEMBER 5, 2012 AT 7:00 AM

Thanks John, it's one I had to spend some time on, but it was really a whole lot of fun. Guess we'll be welcoming you back to the good old USA pretty soon.

[REPLY](#)



**Ed Hardegee** says:

TUESDAY, NOVEMBER 6, 2012 AT 6:58 AM

B & A, your involvement with real people and places are special. Well done. Ed

[REPLY](#)



**Lindy Barnes** says:

MONDAY, NOVEMBER 5, 2012 AT 4:49 AM

I always look forward to your latest blog post but this one is particularly enticing. Bread is the staff and stuff of life – really good bread that is. I am thrilled to see this historic wheat making its way back into today's southwest (MX, AZ, etc).

One question – will you be republishing “Earthen Floors”?

Lindy Barnes

[REPLY](#)



**Bill** says:

MONDAY, NOVEMBER 5, 2012 AT 6:59 AM

Thank you Lindy, for me it's learning something new, seeing something new that I enjoy the most. This project was exceptional in every regard. It was really nice to be involved on someone else's project.

[REPLY](#)



**Lindy Barnes** says:

MONDAY, NOVEMBER 5, 2012 AT 4:50 AM

I was so interested in the story I nearly forgot to mention how wonderful these pictures are. 😊

[REPLY](#)



**Kyle Young** says:

MONDAY, NOVEMBER 5, 2012 AT 8:55 AM

Bill,

Good stuff as always.

Thought your readers might want to check out these two links get an idea of how Borlaugs legacy of “wheat uniformity” has made us as vulnerable to Ug99 as the single variety of potato that the Irish grew was to potato blight. Of course the other legacy is a 500% increase in gluten intolerance since the advent of Borlaugs wheat introductions (late '50's).

<http://articles.latimes.com/2009/jun/14/science/sci-wheat-rust14>

[http://www.wired.com/magazine/2010/02/ff\\_ug99\\_fungus/](http://www.wired.com/magazine/2010/02/ff_ug99_fungus/)

[REPLY](#)



**Bill** says:

MONDAY, NOVEMBER 5, 2012 AT 8:59 AM

Perfect Kyle, as always good to hear your voice. It's just the kind of feedback I was hoping to see from this post. Thanks.

[REPLY](#)

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**Tom** says:

MONDAY, NOVEMBER 5, 2012 AT 9:04 AM

Wow,

Kyle is still out there.....

tom

[REPLY](#)

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**Tessie Naranjo** says:

MONDAY, NOVEMBER 5, 2012 AT 9:11 AM

thank you! I remember walking through the mill in Banamichi and imagining all those machines running. It was a moment of awe for a time when wheat (food) was not taken for granted—people worked and interacted with their food source. It went from field to mill to tortilla. The mills were family or community operations, I would think, and the entire process of making a tortilla was not a matter of opening a bag of flour. Another example of how disconnected we are from production of our food. —But are mills a step on the way to our lack of interaction with food sources? It sure is a step from the old metate and mano....

[REPLY](#)

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**Bill Steen** says:

MONDAY, NOVEMBER 5, 2012 AT 9:20 AM

Having shared in this entire experience and also having been a big part of Rio Sonora culture for the past few years, I would absolutely think that they are a great step in the right direction. Always good to see your name appear Tessie.

[REPLY](#)

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**Robert Quiroz** says:

MONDAY, NOVEMBER 5, 2012 AT 11:17 AM

Hi Bill,

We used to run through the mill in Oquitoa as children when we visited my great aunt Romansita Sotelo de Ortiz. Her house was about a block from the mill. She was my grandmother's sister. My grandfather and grandmother (Francisco Quiroz and Rosa Sotelo moved from Caborca to Arizona in 1912. Many of their siblings remained in Alamos, Caborca, Hermosillo and Oquitoa... The mill looks about the same as I recall from the early 1960's.

Thanks,

Robert

[REPLY](#)

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**Charlie Carruthers** says:

MONDAY, NOVEMBER 5, 2012 AT 6:07 PM

Hey Bill,

As always, I continue to enjoy your writing and photographs- thank you. Recently I just finished reading "WHEAT BELLY" by William Davis, MD who addresses the very issues you brought up with today's hybridized wheat.

Charlie



[REPLY](#)

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**Pete Moncada** says:

TUESDAY, NOVEMBER 6, 2012 AT 9:13 AM

Bill,

Another great post. I look forward to your posts and this one is excellent. Local wind and water powered mills would add more to our individual freedom than another million congressional rants about national security, Keep up the good work at canelo and beyond..

[REPLY](#)

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**Anthony Sanfilippo** says:

MONDAY, NOVEMBER 12, 2012 AT 11:15 AM

I would like to thank all of you for succeeding in braking the child from the earlier arguments of nutrients from flours an actual crippling affect on many since the 1960's. My own diabetic disease exacerbated upon braking my neck and gaining 200 extra pounds before several surgical procedures trying to correct the damages, has brought up a life of contaminations from my families history in the standard production of wheat farming. I am glad to see the factors of all that tilted the subject in a conflictual fashion so many years ago handled by such caring people. Please keep writing about the many needs of all wheat sources. The use of three ancient to make product is a plus in today's use of mass production and packaging.

[REPLY](#)



**Bill** says:

MONDAY, NOVEMBER 12, 2012 AT 3:34 PM

Thank you Anthony for sharing your story. It brings a personal note to what can end up being somewhat impersonal and yes, if the opportunity presents itself, I will not hesitate to write more.

[REPLY](#)

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