



HARVEST

Journal



The Nitrite Difference

I have nitrites in the shop. It wasn't long ago that I could only say that word by spitting it out of my mouth like a bad taste or a profanity. I would have been content to ignore nitrites for the rest of my life. Curing meat just for our household requires not a grain of nitrite.

For me, it is not a health risk or even an objection to its flavor. My objection is to its homogenizing effect. It makes everything tangy, shielding the flavor of the pork. The variation from batch to batch is something I relish in cured meat. Nitrite eliminates the conditions for terrior.

My morbid curiosity was hooked, however, when I started curing other people's meat. OPM changes everything. Suddenly, my impassioned grip on the platonic form of preserved porcine perfection didn't matter, even if I can make a thesis defense of its historical legitimacy as a post-industrial return to mid-century craftsmanship tempered by pre-modern preservation.

There is a severity to the consumer market that throws all that out the window when a less than complimentary review comes in. More than once I have heard that my bacon tastes good, but it doesn't taste like bacon at all.



This kind of reception has compelled me to do the unthinkable in the Meatsmith household: buy bacon. I need to know what “bacon” tastes like. We will go years without eating OPM, raising all our own pork and curing our own bacon. So when I test a store bought slice or even one made by an award winning charcutier, it is quite a shock. My homemade peasant bacon is another thing entirely.

Which means, the bad review is correct. If bacon tastes like the nicest slices you can buy at Whole Foods, then my bacon doesn't taste like bacon.

My bacon, and any piece of animal flesh salted on the premises, is cured for preservation. This means that freezing it is redundant at best, but mostly deleterious. I cure bacon and ham so that it remains stable at indoor microclimates the year round. It never goes bad; it only goes good.

To achieve this end, the bacon is cured with salt, which magically removes and binds water throughout the meat. Salt is the active ingredient that achieves the preservation by making water unavailable to bacterial dalliance. Consequently, one tastes salt in the finished product.

This is not how grocery store bacon is made. It has a different end. The telos of preservation is replaced by the telos of inoffensive flavor. Grocery store bacon has an expiration date and is therefore not cured so much as it is flavored.

And that flavor is the rub. It is not the magnanimous marriage of fat, salt, time and smoke. It is bland and slightly tangy. Incidentally, I don't think blandness is bad. Frequently, it serves the expression of a harmony of flavors, allowing good ingredients to speak for themselves. Hence my insatiable curiosity and the unopened nitrite container sitting on my shelf for the past two years.

Mild sourliness goes well with fat. This is why sausage loves sauerkraut and mustard facilitates the consumption of large amounts of pate. It is part of a triumvirate or a balance of three: salt, acid and fat. That acid is what nitrite provides.

It does this two ways. First, it lowers the pH of the meat, making it more acidic. This is why it is valued for use in salami and smoked sausage where a low pH inhibits clostridium botulinum. Secondly, this function of nitrite makes the curative results less dependent on salt. So, less salt can be used.

This bland sourliness is a flavor we all recognize. It is the rule rather than the exception when it comes to cured meats in this country. Perhaps the epitome of this flavor is corned beef. Summer sausage from the store augments it by the addition of ascorbic acid, pushing the pH even lower.

So called polish sausages and hot dogs have it too. Any sausage you can buy that is smoked has this sourly flavor. Store bought bacon has it in spite of what the label might say.

Uncured bacon or no-nitrites-added bacon still have celery juice powder, which is the dehydrated juice of celery, a natural source of nitrite. (Though “natural” might be a bit of a stretch considering the processing required to extract, ferment, dehydrate and measure the nitrite from celery.)



So it is understandable that my simple salt-cured meats would taste anomalous. To this day, I still have not used nitrite. The consequence is that the flavor of our cured meat is always a surprise to guests. Fortunately, it is a pleasant one.

The advantage to nitrites is expedience. Nitrite actually penetrates the meat faster than salt, permeating it quickly with the cured-like flavor and pink color in short order and all under refrigeration.

It wasn't always this way. If a butcher before the 1930's wanted nitrite in the finished product, he had to start with saltpeter from Chile, which is potassium nitrate. The saltpeter-cured meat then had to be wooed into nitrite reduction through bacterial action in warmer refrigerators for weeks.

Other than hastening and simplifying production, it is also very helpful in smoked sausage.

It is so helpful in fact that it is hard to think of a nitrite free version of smoked sausage that isn't theoretically risky. (I say theoretically because I still haven't read or heard of botulism poisoning from fermented sausages.)

Smoked sausage is produced by grinding pork, seasoning it with salt and curing agents, mixing it to bind water, then linking and finally smoking the sausages at low temperatures. It is the low temperature smoke that puts the sausage in the so called danger zone where nefarious bacteria are thriving and botulate toxicity is possible.

The thing that inhibits it is the low pH achieved by the nitrite. You could smoke at a higher temperature, but anything above 155f internal sausage temperature tends to make the fat run causing the links to shrink, dry out and become greasy.

Without nitrite, smoked sausages would have to achieve a low pH through natural fermentation. This is how I have made salami for years. Salting the meat to 2.5% by weight, adding acidic things like wine and then mixing rigorously to bind available water starts the fermentation off right, which in turn produces lactic acid.

While I have never measured it, somewhere below 4.3pH is what to shoot for. The mixture would need to inoculate for days, depending on temperature, either cased or bulk before that pH is achieved.

Or, you could mix it all adding your .25% Cure #1 by weight (reducing the salt accordingly), and it takes only one night for the pH to plunge.

That is the nitrite difference.



Harvest Journal

A *Farmstead Meatsmith* Publication
© 2017 Farmstead Meatsmith. All rights reserved
Photos by Farmrun

Brandon Sheard
July 31st, 2018
Feast of St. Ignatius of Loyola