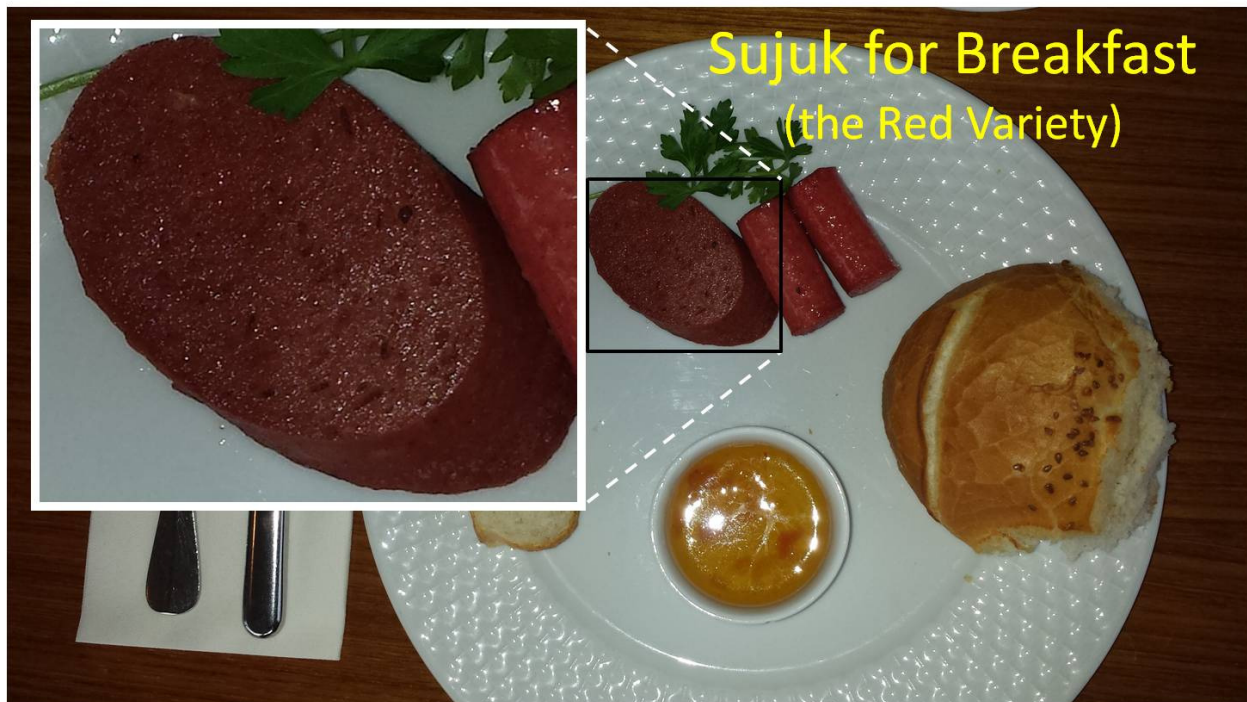


During a recent trip to Turkey, I had sujuk sausage for the first time. ...figured I would resurrect the topic, this time on our own website. Here's a photo. The sujuk is the larger-diameter (50 mm?) sausage. It tasted rather mild, but had a little tang from the fermentation. ...could have used a bit more paprika, pepper, and fat.

Anybody out there interested in pursuing the topic? It's an all-beef fermented, dried sausage along the lines of summer sausage, with an unusual pedigree. You just might enjoy it.

What follows is a series of posts from Chuckwagon's and my former on-line "hangout," Wedliny Domowe, with the pictures added and some additional material. It is complete enough that you can make your own sujuk without much trouble. I would recommend not drying it to the extent covered by contributor "SoujoukForLife, at least the first time, but instead refrigerating it after three to five days and frying slices. The authentic stuff is made so as to last a long time without refrigeration. The Turkish versions which I am familiar with don't go as far, and consequently are sold cold in the butcher shop refrigerated meat case along with fresh sausages. ...except they don't routinely sell pork sausages in Turkey (it being predominately Moslem), so there aren't many sausages to begin with.



## Seeking Sumac Sausages. Sujuk?

El Ducko

From a series of posts beginning 9/24/2013 on Wedliny Domowe

Well... I bought a jar of sumac recently at a Lebanese store, and it's been sitting there, mostly. Hmm... can you make sausage with sumac as an ingredient?

As usual, I turned to Wikipedia first. They said, in part:

### Quote:

*Sujuk, also "sucuk" and soudjouk is a dry, spicy sausage in Turkish, Bulgarian and Albanian cuisine eaten from the Balkans to the Middle East and Central Asia.*

*Sujuk consists of ground meat (usually beef, but pork is used in non-Muslim countries and horse meat in Kazakhstan and Kyrgyzstan), with various spices including cumin, sumac, garlic, salt, and red pepper, fed into a sausage casing and allowed to dry for several weeks. It can be more or less spicy; it is fairly salty and has a high fat content.*

*Sujuk may be eaten cooked (when raw, it is very hard and stiff). It is often cut into slices and cooked without additional oil, its own fat being sufficient to fry it. At breakfast, it is used in a way similar to bacon or spam. It is fried in a pan, often with eggs (e.g. as breakfast in Egypt), accompanied by a hot cup of sweet black tea. Sujuk is sometimes cooked with haricot bean or incorporated into pastries at some regions in Turkey. In Bulgaria, raw, sliced sujuk is often served as an appetizer with rakia or other high alcoholic drinks. In Lebanon, cooked sliced sujuk is made into sandwiches with garlic sauce and tomato.*

...looks like you can. So, searching further, I stumbled upon an interesting internet post at <http://www.antoniotahhan.com/2010/12/21/sujuk-armenian-sausage-from-scratch/> which describes an interesting Armenian sausage called sujuk. Check the post. It has lots of pictures. Here's his recipe, echoed for those too lazy to visit the website. It appears to be a basic recipe, put together by someone's aunt, done traditionally. Bear in mind that, for you and I, cure #1, possibly cure #2, is needed. (This will be discussed below.)

### Sujuk Sausage

*yields approx 1kg*

#### *Components*

- *1kg ground beef, freshly ground*
- *2 Tbsp cumin, ground*
- *2 Tbsp allspice, ground*
- *1 1/2 Tbsp fenugreek (optional), ground*
- *1 1/2 Tbsp paprika*
- *1 1/2 Tbsp salt*
- *1/4 cup garlic, minced*

#### *Putting them all together*

1. *Mix all the ingredients together and refrigerate overnight.*
2. *Stuff meat mixture into clean, porous stockings and let hang for 3-5 days in a cool, dry place away from any sunlight.*

3. *Once pouches are dry and firm to the touch, remove from the hanging rod and store in the refrigerator — leftover pouches keep great in the freezer.*

*Notes: Make sure whatever you use to encase the meat is clean, but more importantly make sure it does not have any detergent scent. Sujuk keeps great in the freezer. I bring down a pouch at a time from the freezer to the refrigerator as I go through it.*

Naturally, there are concerns about spoilage. Here are a few posts in reply to his recipe:

*With regards to the temperature, this should only be done in the fall/winter when the weather is relatively cool (40-50 degrees F). If you use the freshest meat possible, keep it away from any direct sunlight, and use enough salt, you should be fine.*

*Sujuk is usually prepared in late fall and throughout winter in Aleppo. Most importantly, the weather should be cool outside to avoid the meat from spoiling. Choose a location that is cool and receives a lot of ventilation (the air/ventilation will help dry the sujuk). Any porous cloth should work as a bag — a lot of families sew their own “bags” made out of leftover cotton fabric. Make sure that whatever cloth you use is clean and does not have any detergent scent.*

*The sujuk I have always had, home-made or store bought, has a little acidity to it. Does it acquire the acidity from the fermentation during drying? Or does it have a minimal amount of some type of acid such as citric acid added. Mind you, I actually like the subtle acidity; I am just curious. I am going to try your recipe and taste it fresh and dry to compare the acidity.*

*Fenugreek is basic in Egyptian “Sujuk”, especially “Pastrami”, mixed with garlic and paprika and touch of salt. In Pastrami, you add drops of water to form a “paste”, then cover all surface of the raw eye of round beef with about one or two millimeter thick.. as for fear of contamination, in “ALL” cases of eating sujuk or pastrami they shouldn’t be eaten raw in ANY CASE, they have to be well cooked or fried now that lots of bacterial contaminants are to be a concern nowadays, not only that, utensils, hands, cutting boards and anything that comes in touch with raw meat have to be sterilized, too bad for the fellow who hates the smell of bleach because it’s the best sterilizer along with detergent.*

Still no mention of sumac. Further looking turned up nothing, except that it has a lemony taste and is often used in Middle Eastern meat dishes such as kebabs, fattoush (salad made with fresh vegetables and toasted pita bread), and kofta (lamb meatballs). ...which is good enough for me. In keeping with the other spices, it looks like 2 tablespoons of sumac will work.

Notice the HUGE amount of garlic, and a traditionally high salt level.. No, that’s not a misprint.

But there are other recipes which get more elaborate. Salt, paprika, garlic, fenugreek, cumin, onion powder, cayenne, allspice, cardamom, black pepper, cinnamon, cloves, even pomegranate juice come into play, as well as red wine and various anise-flavored distilled spirits.

Len Poli gets in on the act: at [http://lpoli.50webs.com/index\\_files/Soojookh.pdf](http://lpoli.50webs.com/index_files/Soojookh.pdf) he adds cure #2 to the recipe before undergoing drying at 50 degF and 55-60% relative humidity. Cure is omitted in his “red soujouk” recipe at [http://lpoli.50webs.com/index\\_files/Soujouk-red.pdf](http://lpoli.50webs.com/index_files/Soujouk-red.pdf) which features paprika and red wine, which dries in ambient (albeit cool) air. However, in his “black soujouk” recipe at [http://lpoli.50webs.com/index\\_files/Soujouk-black.pdf](http://lpoli.50webs.com/index_files/Soujouk-black.pdf) which has black and white pepper, cinnamon,

allspice, and ouzo (anise liqueur) and dries under the same conditions, he admits to optionally adding cure #1.

Poli's recipes were sent to him by an Australian website visitor. Perhaps our Aussie friends have some recipes to share? And CW, here's an opportunity for another of your articles on dried sausages, the role of salt in reducing aW, cure#1 vs. cure #2, and why Armenian families may be dying off at the hands of kindly old aunts making sausage the traditional way.

Meanwhile, I continue to seek a way to use sumac in sausage. If you have experience with sumac, please share. Otherwise, it goes into za'atar (sumac, sesame seeds, and thyme/marjoram/oregano in olive oil, for dipping pita bread). ...which, come to think of it, is a pretty good way to use sumac.

---

Not much later, user markjass from New Zealand wrote

**May give you an idea**

I have tried using sumac in sausages, but felt that it did not add much. I wonder if you can adapt this recipe for meatballs into a sausage. It is from one of my favourite local shops. Imogen the owner, who is a gem will talk food all day with you. I find her inspiring and encouraging. Her shop was in a prime spot in town. Then along came the earthquake and smashed it. She then used her garage at home as a shop until she has sorted out her present location. If you have time, check out her products. How lucky am I that I live in Christchurch.

Here is the link to her recipe - I have only included part of the ingredients and included the link.

**Sumac Meatballs with Chermoula Sauce and Yoghurt**

Imogen Taylor - Wednesday, June 26, 2013

<http://www.aji.co.nz/BlogRetrieve.aspx?PostID=351292&A=SearchResult&SearchID=26325751&ObjectID=351292&ObjectType=55>

Middle Eastern Lamb Meatballs

- 500gm lamb mince
- 70gm ground almonds
- 1 onion finely diced
- 2 cloves garlic, crushed and sliced
- 1heaped tbsp sumac

*Note that the narrative for this blog has unfortunately disappeared.*

---

After some back-and-forth, I wrote the following in part:

Hey, CW, what comments do you have on the use of either cure for hanging Sujuk in cloth sacks from your back porch for a couple of weeks?

Betcha that a pack of wandering carnivores will pick most of 'em off before the remainder cure and are ready to eat. ...or maybe they call these things Armenian wind chimes? ...Armenian piñatas?

Anyway, it sounds like a fascinating recipe. Has anyone tasted it who can describe it? As soon as it gets below 50 deg F here (mid-January, for a few days), I'm gonna try it. ...or else, finally build that temperature/humidity controlled curing setup.

---

There was some discussion about sodium erythorbate, then a question on Markjass's post, which he answered as follows:

Looking at Imogen's recipe she uses 1 1/2 tablespoons of sumac for 500mg of meat. Susan et. al in Home Sausage Making looked at it today in the library use 1 1/2 tablespoons in 3 1/2 pounds of lamb = 1.587g of meat. As I do not have any sumac left I cannot weigh a tablespoon of it so that is not much help.

From serious eats (<http://www.serious eats.com/2010/12/spice-hunting-how-to-buy-store-use-sumac.html>) 'sumac. Sweet and sour, bitter and fruity, it's the saving grace for the unapologetically lazy cook, a Swiss army knife of finishing touches. It's surprising sumac hasn't joined other Middle Eastern ingredients on their inroads into American cooking. It's a versatile spice and if that weren't enough, a quick sprinkle will make any dish look downright pretty. Like lemon juice, it's used to add quick, fresh acidity to grilled meat, cooked vegetables, salads, dips, and grains. But it's much more complex than lemon, reminiscent of perfectly ripe raspberries and tomatoes, with a pleasing bitterness that lingers just a second after swallowing. It's less tart than lemon, more about balanced tartness than pure acidity, and a pleasant substitute for ubiquitous squeezes of citrus'.

---

Still later, user SoujoukForLife sent in an interesting post:

I know I'm posting late here, but I get excited when people talk about soujouk (sudjuk, sujuk, sucuk)! I'm Armenian so I grew up with sujuk, and there are two main kinds: black and red. Sumac can certainly be used in sujuk but is by no means what gives sujuk its flavor. They derive their flavor substance from black pepper and paprika, clueing you into the meanings of their names. Within that, there are multiple degrees of heat and even sweeter sujuk. I've started making it recently, and it is not only effortless (just hang your mix in a stocking in a cool area for up to two months), but does NOT need a starter culture or cure and does NOT need to be cooked when aged appropriately.

I've eaten it raw my entire childhood and there is no need for concern unless eaten way too early. It's delicious when cooked though, and needs no oil as it fries in its own fat (75/25, 70/30, and 80/20 are all normal mixes, but dry at different rates). I saw someone else post about tzatziki and that is rather effortless as well: remove seeded areas of some cucumbers and process the rest until you have finely cubed or diced cuces. Mix with an equal part PLAIN Greek yoghurt, adding some salt, pepper, diced fresh dill and diced or ground up garlic to round it out. Consistency should not be too thick or too watery, but in between

Actually my last post was a bit misleading, you do need a "cure" but it is simply salt

---

After a bit, he writes again:

Ok so it seems to me that all the recipes in your initial post are viable options, but different casings and temperatures affect drying. I'm making a batch right now that is quite similar in method to Tony Tahhan's recipe in your initial post. I'll post the recipe I am using and pictures of the process. I won't be using a grinder or food processor, nitrite or nitrate cures, and am not using plastic or animal based casings, so I am posting links to recipes I have found that do implement these processes that I strongly suggest you peruse:

1. A multi-post recipe using casings, calling itself Bulgarian, but most likely the author is ethnically Armenian: <http://caramellacooks.blogspot.com/2008/02/blog-post.html>

Her recipe is as follows:

Ingredients

- 5 kg minced meat
- 90 g salt
- 3 tbsp granulated sugar
- 3 tbsp sweet paprika
- 2 tbsp chilli flakes (optional)
- 15 g savory
- 15 g ground black pepper
- 7 dl water

Method

Mix all ingredients well and leave overnight so all flavours are released.

Next day, place the (natural) sausage skins in water for a few hours.

Thread the sausage skin onto the sausage filling machine and tie a piece of string at the end.

Then fill a length of about 30 cm and tie with the other end of the string, so a loop is formed between string and sausage.

Cut off the end and repeat the previous step with the next sujuk.

Hang the sujuks in a cool place to dry.

After 2 - 3 days, carefully roll each sujuk with a rolling pin and leave to hang and dry again.

Repeat the rolling 2 - 3 more times while the sujuks are drying. They should be ready after about 20 - 25 days.

If you grow tired of waiting this long, or just fancy trying it, the sujuk can be fried during the drying period. Works pretty much like a regular sausage.

When the sujuk is ready, remember to peel off the sausage skin. It's normally eaten as a snack, sliced thinly along with a fine rakia (*fermented grape juice liqueur with anise flavor*). Maybe salad as well.

Commercial sujuk tends to have a higher fat content, so in making your own, you can ensure that it's mostly meat, not to mention the spice combination.

2. A recipe for Lukanka, a Bulgarian brother sausage to soujouk. Talks of casings and a cure: <http://www.smokingmeatforums.com/t/129905/bulgarian-deer-lukanka-dried>

4. Difference between general black and red spicing of soujouk:

<http://thefoodblog.com.au/2009/03/sujuk-from-armenia-to-lebanon-and-to.html>

Recipe follows:

...there are two types of sujuk – red and black. Red sujuk contains red wine and has paprika as a main ingredient, which gives it its color. Black sujuk depends on pepper for spice, with the aniseed hit coming from Arak (the macho Lebanese cousin of ouzo or pastis). Beware, you will be stuffing the meat in freshly bought single legged ladies stockings. So here is how you make it:

#### Red Sujuk

- 1 Kilo fatty beef mince (or half beef, half lamb)
- 1/4 cup finely minced garlic
- 2 tsp salt
- 2 Heaped Tablespoons Sweet Paprika
- 2 Heaped Tablespoons Smokey Paprika
- 1 Heaped Tablespoon Fenugreek spice
- 1 Heaped Tablespoon Cumin
- 1 Heaped Tablespoon Black Pepper, the fine powder type, not the fresh cracked.
- 1/2 cup of Red Wine, nothing too expensive

#### Black Sujuk

- 1 Kilo fatty beef mince (or half beef, half lamb)
- 1/4 cup finely minced garlic
- 2 tsp salt
- 1 hpd tbsp white pepper
- 1 hpd tbsp black pepper
- 1 hpd tbsp cinnamon
- 1 hpd tbsp cumin
- 1 hpd tbsp allspice
- 1/2 cup arak

Mince all ingredients together for your chosen color in a mincer (or in a food processor). Stuff meat nicely in clean stockings and make sure the meat is nice and uniform. Hang meat for 3 to 5 days at room temperature, less if hot, more if cold.

#### Back to SoujoukForLife's post

##### My recipe:

- 3 lbs. of 75/25 ground beef mix I bought from a butchers stand at my farmer's market
- 2 1/2 tbsp. of salt
- 3/8 cup finely diced garlic (adjust to taste)
- 3 tbsp. smoky paprika (if all you can find is simply labeled "paprika" don't worry )
- 2 heaped tbsp. of fine ground black pepper
- 2 heaped tbsp. cumin
- 1 heaped tbsp. cinnamon

##### Equipment:

- Nylon stockings that are non-scented
- Two sheets of plywood and some weight

##### Procedure:

- Mix raw meat with all spices, ensuring that the spices are THOROUGHLY mixed into the meat, especially the salt. This is very important because the salt will be doing most of the work.
- Tie off a knot at toe end of a stocking, leaving space beyond the knot that can be hung on a nail or hook.
- Stuff the stocking with the length of meat that you want. Before you tie off the other end of your cloth casing, you want to shape the meat. Roll it and shape it to make sure that there are no breaks in the meat and that it forms into a uniform cylinder.



- Tie off the other end of the link tightly to the meat. If your soujouk links are larger than meatballs, they should not be connected to each other.
- There are two ways that these are generally hung: On one end hanging like the letter "I", or more popularly, from both ends in a "U" horseshoe shape. Arrange all your soujouks in whichever of these you choose on a sheet of wood and put another sheet of wood on top of it.
- Place this arrangement in a cool area and place a fair amount of weight on top and sit for 24 hrs. This will flatten them out a bit and drain most juice
- Hang your soujouks in a cool dry place that does not have strong sunlight or is easily accessed by animals. In my case, I've created a cool environment in an out-of-the-way area of my house that is well ventilated with open windows and as cool as outside.
- Check on them daily or every two to three days, but don't prod. If you hung them in a "U" shape and notice that they are starting to curl towards you or away from you or heavy in the "elbow", take them down and gently roll them flatter and evenly with a rolling pin. Maybe try hanging ends a little spread out.
- They should start to harden after a few days, and full drying depends on the time and temperature. I'm rambling on this post, so I'll jump to another one for details on time and temp and pictures that I have.

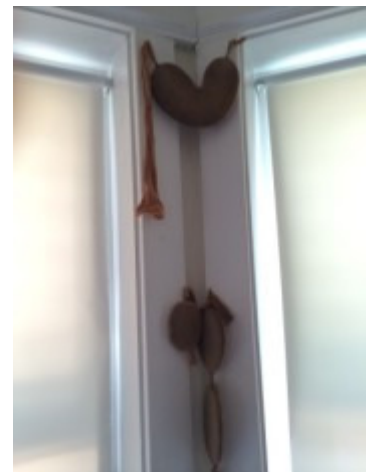
---

He continues, in another post:

Soujouk that I've made tend to be semi-hard after 5 days to two weeks. These have at least a slight stiffness to the outside, but are pink inside. This stage of aging cannot in my experience be eaten raw. However, providing it is stiff enough for you to do so, you may cut thin slices maybe like 1/4 in thick and fry it in the pan. Its fat content means it will fry quickly and without additional oil. I do this in the morning with eggs.

To eat "raw", or without having to fry it, you must age it about a month or two months, and this depends upon your climate. I make soujouk around October/November/ December. Here, it's usually in the 30's and 40's maybe 50's F during the day and 20 at night. You can tell if your soujouk is "done" all the way through because it will have noticeably darkened in color to its core. Its outer firmness will tell you when to cut it open and test, as it will be very hard. The fully aged form can be eaten in the same manner as above or "raw", but can also be implemented in other dishes as cooked larger cuts.

<https://imageshack.com/i/051nvuj>



<https://imageshack.com/i/1n1mkkj>



Unfortunately, <https://imageshack.com/i/5b3lsvj> has been deleted

I've formed these into very flattened "patties" this time instead of the typical rounder shape. I'm testing out thickness's effects on drying time, their thickness again reminiscent of Tony Tahhan's recipe. However, thicknesses and shape vary, and the last batch I made was actually more similar to the "Carmella Cooks" link. I've seen chains of small egg shaped "chunks", long "U" shapes like kielbasa, or medium sized straight sausage link sized but slightly flattened. Like chili, flavor varies by region, with a basic recipe that has different ingredients added in different areas, especially the use of alcohols.

The flavor of the soujouk I'm currently making is a mixture of the things I like from the black and red. If you've tasted any commercial soujouk, (which is obviously fully cured to be able to reach you) you've probably found things you like about it and spices that taste similar to or would compliment the spices used in it (*think Middle Eastern or Mediterranean*). This will inform how you spice it.

Also if you've eaten commercial soujouk before, you'll know when it smells just right. I would definitely suggest obtaining different heats of paprika if you are able, but I have only been able to find hotter paprika now and then. I think McCormick might sell a "smoked paprika", but I haven't been able to find it recently. If you can't find a good paprika, maybe use it as a supporting flavor to black pepper or try and substitute it with something like cayenne powder + something else? I have no experience with cures, as I'm just beginning my foray into cured and smoked meats. However, I would assume that extra agents for drying might mean less salt and less time drying? I do know that however potentially unsafe it may be without these agents:

- It is a very old and continued way of drying meat so when it IS done right it's safe to consume "raw".
- If you're not prepared to consume it raw (and in any case you should assume unless you've made it before that it hasn't been long enough), it cooks rapidly

Casings are obviously not involved if cloth casings are used, but when cooking slices of soujouk made in plastic or animal based casings, cut the slice first and then peel the casing off its rind before cooking (not necessary with animal based, but still usually practiced).

I'll post more pictures of progress and feel free to ask any more questions

---

A week or so later, he was back with more postings:

So it's been a while since my last post, but my batch of soujouk finished around the change to 2014. Thought I'd post some pictures.

Soujouk still in stocking casing and soujouk with casing removed:



<http://imageshack.us/photo/my-images/40/tw4g.jpg/>

Demonstrating the firmness your soujouk should have:



<http://imageshack.us/photo/my-images/541/wwt5.jpg/>

Your soujouk should be the same color all the way through, and significantly darker in color and harder than when you started (this means it can now be eaten uncooked too):



<http://imageshack.us/photo/my-images/690/0goz.jpg/>

Your soujouk should slice quite cleanly into pieces as it now has an exterior "curb"



<http://imageshack.us/photo/my-images/835/gztn.jpg/>

thanks for your time and good luck with all your soujouk ventures!

One last thing! if you are currently using a soujouk, you may keep it in your fridge for a good amount of time. If you have more soujouk than you need, keep your extras in the freezer (they'll absolutely keep for months either way) and move to the fridge when you want to use it.

---

There was interest in a few details. User "Igor the Dane" wrote:

What I would like to know is for how long the soujuks have been drying at the time you took the pictures? They look REALLY dry!

Do Armenians also make the Turkish style cooked and semi dried "Parmak Sucuk" where sumac is very often added ?

SoujoukForLife replied:

They hung from Dec 16th-29th. These most recent pics are on Dec. 29th and the first pics were from Dec 18 or 19. I noticed that the Tony Tahhan recipe Duk posted said air drying for something crazy like 3-5 days! I noticed his was also much flatter than any other sujuk I'd ever seen. I made this batch flatter to test out drying time and instead of a month-two months it took 13 days for the last one to fully finish.

I've had no problems keeping it in the freezer and fridge but with me it goes fast. Good texture not dry for how flat it is and nice acidity when uncooked. In the future I do not want them this thin but it was a nice experiment. Not sure if Armenians in Armenia make "parmac sucuk" as that's decidedly a Turkish recipe and spelling but it's a nearly identical recipe, and I'm sure I could make their variation if I tried my hand.

---

At this point, Chuckwagon was back with a comment about making sure we used cure #1.

SoujoukForLife acknowledged this, and said he'd look into it. It should be noted, however, that the Eastern European and Asia Minor folks who make soujouk at home typically don't have access to cure #1.

---

At this pointy, I bought some commercially available soujouk at a Lebanese grocery store in Austin Texas, and wondered about the shape. SoujoukForLife came through, again:

After stuffing your casings, you should put them between wooden boards and put some slight weight on it for 24 hrs then hang. This action will squeeze out juices, adhere your stocking to your meat, and give you that flatter shape. In commercial soujouk with animal casings, (often beef or something to stay halal, but some companies cater strictly to non-Muslims by using pig) there's a good chance that air got in there when stuffing, so they pin-prick air bubbles and flatten it to remove air. Either way, flattening reduces thickness which in turn decreases drying time.

Taking it out of the casing early to pound it would not be wise for two reasons.

- First, when you take them out they will literally peel off the meat and you wont be able to get back to that meat+stocking tight contact you had before.
- Additionally, you want to let it produce a slight exterior curb on its own as it dries inward and any pounding could be counter-productive and mean waiting longer. You

could take it down and gently roll over it with a rolling pin every 2-3 days if you feel it's necessary. Eventually it will dry in the shape you have suggested for it

But, since a stocking casing is way more air permeable than air drying through pin pricked intestines I would say your sausages would dry quicker this way anyway and your lady will have her stockings back in no time.

---

My comment on the commercial soujouk was as follows:

...recently bought some "Eureka" brand dried beef soujuk at a Lebanese grocery store in Austin. It was produced by Eureka Sausage Company in North Hollywood, California. It's a flattened sausage with oval-shaped ends, about a foot long by 2-1/2 inches wide by a uniform one inch thick. It's very dense, giving it the texture that you would expect in a fermented, dried sausage. The list of ingredients gives us a clue to its recipe:

- Beef
- Salt
- Cumin
- Garlic
- Allspice
- Dextrose
- Sugar
- Sodium Erythorbate
- Lactic Acid
- Sodium Nitrite

I was surprised that there was no sumac. The flavor was... how to describe...? deep, maybe, similar to beef jerky but with a middle eastern taste and a nice tang from the ferment and the lactic acid.

The grocer told me that the key to his version is sumac and vinegar. (*I suspect that his recipe is for a fresh sausage, given the vinegar.*) It should be interesting to pursue this farther.