

THE GRAND GRILLED CHEESE EXPERIMENT

Well, it has been a while since I did an experiment and I think this is a good one, albeit an REALLY open ended one. This started when I was in my local Weis. I was going down the oil section and I noticed BEEF TALLOW AND DUCK FAT!!!! I definitely did not expect to see those, so I picked them up. We'll get into how much they cost later. ANYWHO, I started screwing around with the tallow and at one point I had a great idea... GRILLED CHEESE!!! And then I thought back to my previous work with grilled cheese.... And then I thought about various videos I saw about working with non-melty cheeses (I bought sodium nitrate by the way)... And then... and then

Anyways, no matter where you go ... there you are.

PROBLEM STATEMENT

I don't know about a problem statement about this one. I don't think I have it down enough, but for now let's say the problem statement is "What is the ULTIMATE grilled cheese?"

HYPOTHESIS

At this point, I have no clue; there are just SO many variables. Will it be the classic white bread and American cheese? Will it be some sort of exotic bread and custom cheese blend? I secretly expect it will be "any grilled cheese that you can make", kinda like "there is no bad pizza, there is just some pizza that is not quite as good as the others". For now let's just poke around and see where that gets us

EXPERIMENT LOG

20210903 (FRIDAY)

1834

First some ground rules....

1900

Let try this again

First some ground rules....

There are WAY too many variables to just go all hog wild (unless I decide to retire), so I kinda gotta make some limitations in the form of ground rules. Now, these may (and will) change as this goes on, but to start

- 1) Definition: This will be the food snobs' definition of grilled cheese; just bread , cheese, and some sort of fat. I'll take some liberties with "some sort of fat", however, so please keep that in mind
- 2) Bread: Maier's Premium Italian (No sesames seeds). I like this stuff and think that it will do very well as a good baseline
- 3) Cheese: This will also offend the food snobs, but Kraft Deli Deluxe American as a baseline. I like this stuff too and it is just the BEST for some applications
- 4) Cooking Method: I want to keep this somewhat controlled, so it would be best to cook test subjects at the same time and with a somewhat controlled temperature (something my stove is not well known for) so we will use my Presto electric skillet. Check notes based on other notes from a piece of paper I have NO idea where it is any more
 - a. Temp = 275 deg. F
 - b. 5 min. Flip
 - c. 5 min. Flip
 - d. 2 min. Flip
 - e. 2 min. Flip
- 5) Amount of fat

So lets start by looking into the "fat" part. I think that only thing I have ever considered for the fat was good ol' fashioned butter. Hey! Its @\$@#\$ good! But, the beef tallow was what got me into this. What can we do with that? What about the others? I did get duck fat. Pork fat too, but that almost seems a little silly since I render bacon fat from LOW AND SLOW bacon.

20220117 (MONDAY)

Well, I took off from work today. I need WAY more time off to recharge, but whaddya gonna do? Anyways, yesterday I made Breakfast Burrito #000. It was great...eggs, avocados, tomatoes, bacon. So today for lunch I said, "Hey! Let's make a grilled cheese with that!" [Ny the way, I just noticed that this violates the rules I set above, but For Unlawful Carnal Knowledge it.

First, I wanted to see what I could do with the rendered beef marrow. I think I have notes from somewhere that said I need salt with it, so first order of business was how much?

Land o' Lakes Salted Butter

- Serving Size: 1 TBSP 14g
- Sodium per Serving: 90mg

Morton's Kosher Salt

- Serving Size: ¼ TSP 1.2g
- Sodium per Serving: 480mg

Don't have the resolution for mg, so Lets do 3 TBSP

$$3 \text{ TBSP} * 13 \text{ g/TBSP} = 39\text{g}$$

½ pt jar weighs 179g/180g

Target weight with jar = 219 g

uWave on high for 20 seconds at a time until it melts

Stir in 1/8 tsp Morton's Kosher salt with stainless steel chop sticks

Well, apparently I forgot my basic chemistry. Well, maybe not totally (I had a feeling this would not work), but enough so that I decided to give a try. Salt does not dissolve in oil / fat. I would up stirring enough so that I got "some" temporary suspension when I spread it, but I definitely dropped the ball on that one

ANYWAYS, I pulled out my standard Maier's Regular Italian with No Seeds bread. Spread the salted marrow fat on one side of each piece of bread and placed those sides fact down. Place 1 and ½ slices of Kraft Deli Deluxe White American on the first piece of bread. Add thin slice tomatoes, avocados, and bacon

Put in non stick pan preheated on VERY low and cover with heat done

Cook 5 min

Flip Cook 5 min

Flip Cook 2 min

Flip Cook 2 min

Put on plate and cut on the diagonal.

WOW! That was pretty fricking good! Everything worked well together including the marrow fat! It gave this nice subtle flavor that hit every so often

SO... where do we go from here? The salt mix worked OK, every though it did not dissolve like I mistakenly thought. I think next time use fine sea salt and mix it right before spreading

I did do a little research on emulsifiers (butter after all is an emulsion)

- Salt water
- Egg yolks
- Tomato paste

I guess the other way would be to mix in the salt with the solid fat then maybe let it soften to room temperature before spreading. I really want to keep a water emulsion as a last resort, but if butter works well as a fat / water emulsion, it should work for the marrow fat as well

Maybe that is the next step? Lets do a little quick research

CONCLUSION

PICTURES
