

Fried Pork



- Ready in 20 minutes - 1 hour +
- Serves any amount of people
- 379 calories in 1 cup of diced Fried Pork

Equipments

- 2-3 bowls
- Deep Fryer/pan
- spatula/tongs

Ingredients

- Pork (better to be chopped pork pieces)
- Soy sauce/salt contents(Golden mountain or Maggi brand)
- Oil (Any vegetable oil)
- Flour and bread crumbs(optional)

Preparation

1. Chop up pork pieces, cut the pork to be smaller pieces if not already, get the meat size to your liking.
2. Marinating the pork in soy sauce, I did 3 different bowls of marinating, based on my experiment. Only 3 tablespoon of soy sauce
3. Put the oil in the deep fryer, I used 1 whole bucket of vegetable oil of 3-4 litres because I use a restaurant deep fryer.
4. Turn on the deep fryer to high temperature/ max temperature, around 176.667 celsius.
5. Dip the marinated pork in the flour and egg (optional)
6. Fry the pork for around 5-10 minutes
7. Finished, put it in a bowl and eat!

Experiment

For my experiment, I tested how the time of your marination affects the pork's color, taste and moisture. I tested 3 different times of marination, one with no marination, one with 10 minutes and 1 with 1 hour.

First for the one with no marination. I just deep fry the pork straight without any marinating, done frying after 10 minutes. The color of the meat looks kind of light, the taste is very plain and when I use my spoon to push down the meat, to test the moisture content, the meat looks more stiff and dry with about 1

tablespoon which=0.902344 cubic inches of liquid content.

Second marinating was the 10 minutes of marination. For this one, I used 3 tablespoons of marination which will be around= 2.70703 cubic inches. The marination time is 10 minutes, I let it sit for 10 minutes until I deep fry the pork, after cooking for 10 minutes, it's done. The taste is more salty as expected, the color is also a bit darker, the texture is softer, there is more gap between the white meat pieces, and there is a little bit more liquid content of 1.35352 cubic inches.

The third and last marination test was the 1 hour test. I let the meat sit and marinate in 3 tablespoons of soy sauce. After time is done, deep fry the pork as usual, after cooking for 10 minutes, it is done. The taste was the most salty and you can see that the gap of the meat had spreaded out and expanded more than the other two. The color was the most reddish color and some that cooked deeper in the fryer can see a little bit of burnt black crumbs.

Science of marinating

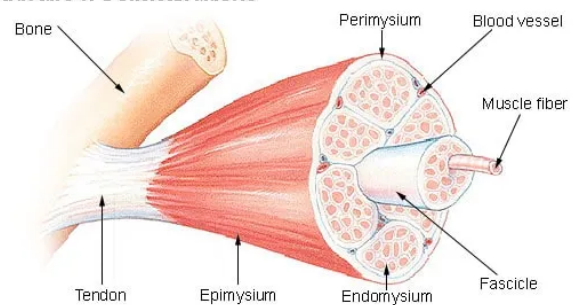
Marination is the process of immersing foods in a liquid often made with oil, seasonings, and an acid or enzymatic component, to flavor and tenderize food.

There are 2637 mg of Sodium content in the saysauce. ground meat without salt should not stick to your hand or to the target. When salt was added to ground meat, salt made the proteins come to the surface (extracted them) of the food surface, allowing the proteins to act like glue. Salt serves many purposes. It brings out natural flavors, slows growth of spoilage microorganisms, and enhances a food's color, odor, and appearance. Salt helps bind meat by extracting its proteins, which "glue" together adjacent pieces of meat. Salt also increases

water binding properties, which reduce cook losses and contribute to enhanced texture. It also helps give a smooth, firm texture to processed meats. In addition, it helps with the color development.

There is also a factor of acid substance in the soy sauce that helps make the meat tender. These include vinegar, citrus juices, and alcohol. Acidic marinades tenderize meat by unraveling the proteins in muscle.

Structure of a Skeletal Muscle



The movement of the animal makes its meat tougher and harder to chew. The use of acids (usually citrus, and vinegar) and fruit enzymes make the meat softer by breaking down these proteins. Yes, some fruits are natural meat tenderizers because they contain enzymes that break down meat proteins.

Keeping time in mind, With either acids or enzymes, it comes down to what you're marinating and how much time the surface of the food is in contact with the marinade. Too long in an acidic marinade, and the acids will reverse course, actually tighten the proteins, and squeeze out moisture, toughening the meat.

There are many factors in the marination that led the pork to be more moist and obtain that moisture. When there is liquid in the meat, the fat helps transfer the fat soluble, therefore keeping the meat moist. The acid or enzyme in a marinade causes the meat's tissue to weaken on the surface causing the meat to be more tender.

the color gets darker because there is sugar in the sauce and it is burnt, it is the result of caramelisation.

Sources

- <https://www.cuisineathome.com/how-to/how-to-flavor-and-tenderize-meat-and-vegetables-with-marinades/>
- <https://thefooduntold.com/food-science/meat-science-does-marinating-for-flavor-really-work/>
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