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THE SCIENCE BEHIND PASTA

The advice for the perfect pot of pasta includes adding salt, forgoing the olive oil, keeping the water at a rolling boil, and pouring some of the pasta water into the sauce.

Food experts have revealed the science behind the cooking process and tips that serve up delectable al dente pasta instead of an unappetizing ball of overcooked noodles. The advice for the perfect pot of pasta includes adding salt to the water and forgoing the olive oil.

THE PERFECT PASTA

Scientists noted that adding oil to pasta while it cooks does not make a difference, as it is washed away when the pasta is strained.

There is only one small step that the average cook can take to ensure delicious tasting noodles - adding salt to the pasta as it cooks will enhance the flavor.

Another tip is pouring a ladle full of salty, starch water into the sauce to help it stick to your penne.

But do not rinse the pasta after it is finished boiling, because you're rinsing off that sticky starch and the pasta will not stick.

While pasta is traditionally an Italian dish, it originated in China – Marco Polo brought it back to Italy after visiting the Asian country in the 13th century.

It has also been deemed the world's favorite food in the past and now, [The American Chemical Society](#) released a new YouTube video on their channel 'Reactions' sharing the dos and don'ts of cooking the perfect pasta.

The team feels that not only is knowing the technique important, but knowing the entire cooking process is also helpful.

There are three ingredients that go into making the popular dish – eggs, water, and flour.

This combination then produces two main chemical components that includes starches, which are carbohydrates, and proteins.

There are also some vitamins and water added to the mix.

'Pasta uses durum wheat, which is one of the harder varieties of wheat out there.

'That makes it harder to mill, which means after it's ground up the particles of Semolina flour are not as fine as the all-purpose flour you have in your kitchen.'

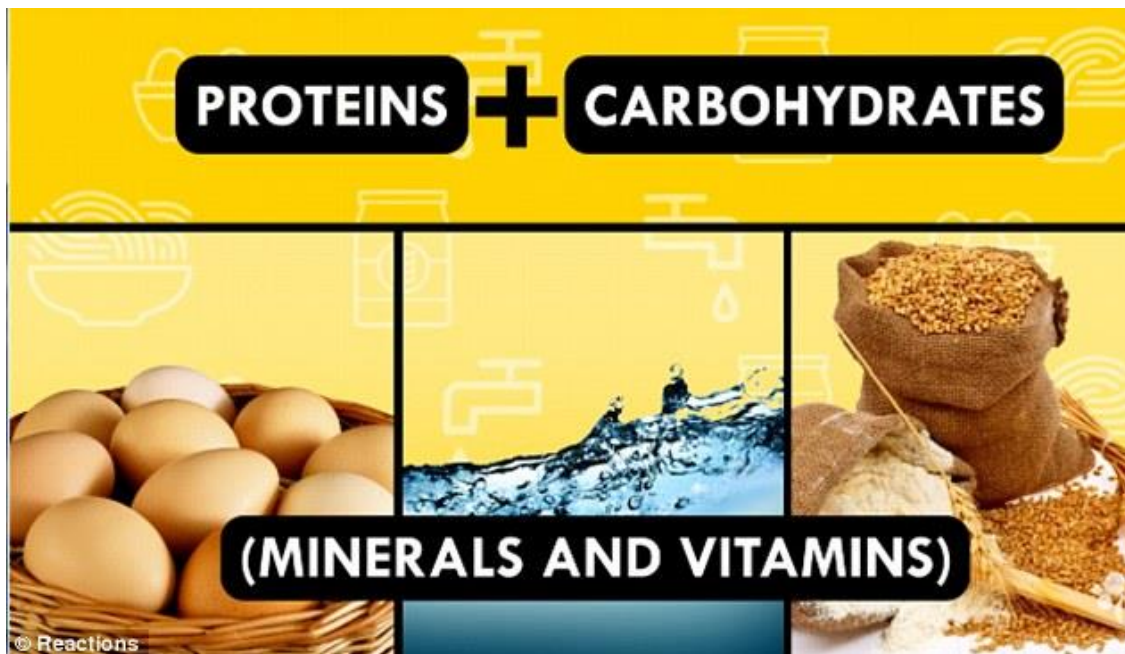
'Since it results in larger particles, not all of the proteins that are in the grain are released.'

'That means that pasta dough is stretchy but not sticky like bread or cookies.'

'Pasta dough's stretchiness makes it easier to flatten into sheets and cut into shapes.'



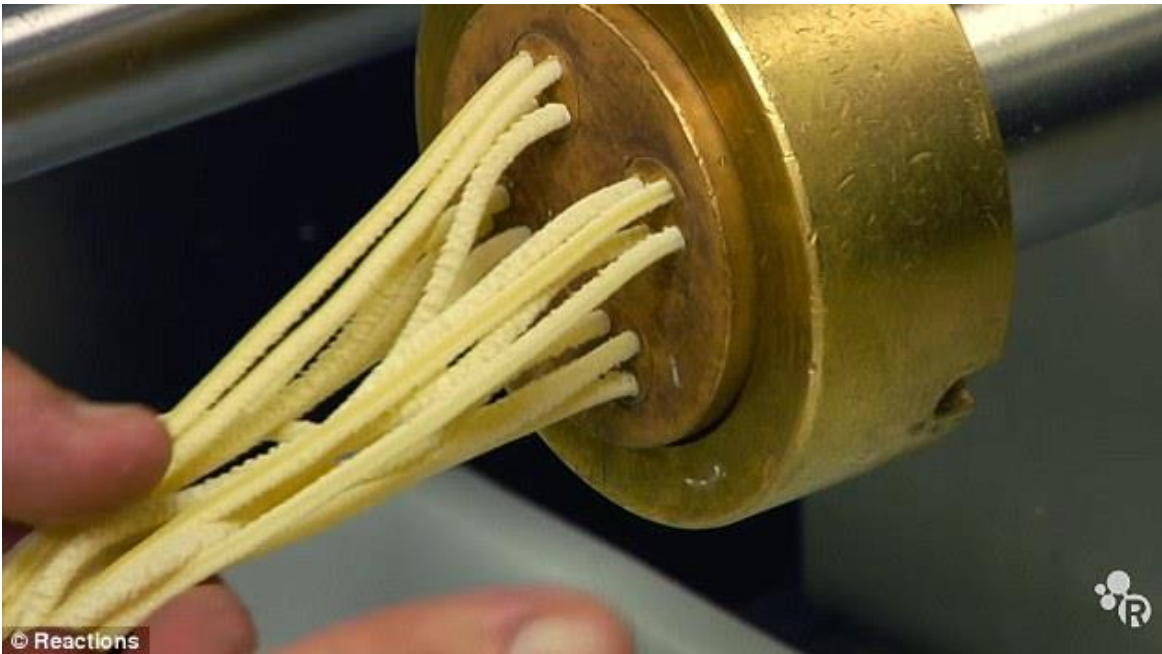
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‘These days, a lot of pasta gets made by extrusion forcing the dough through shaped holes.’

If you were to take a closer look at the pasta dough, like at a microscopic level, you would see a network of particles holding the starch particles together. This is what gives the dough that springy texture – otherwise it would fall apart.



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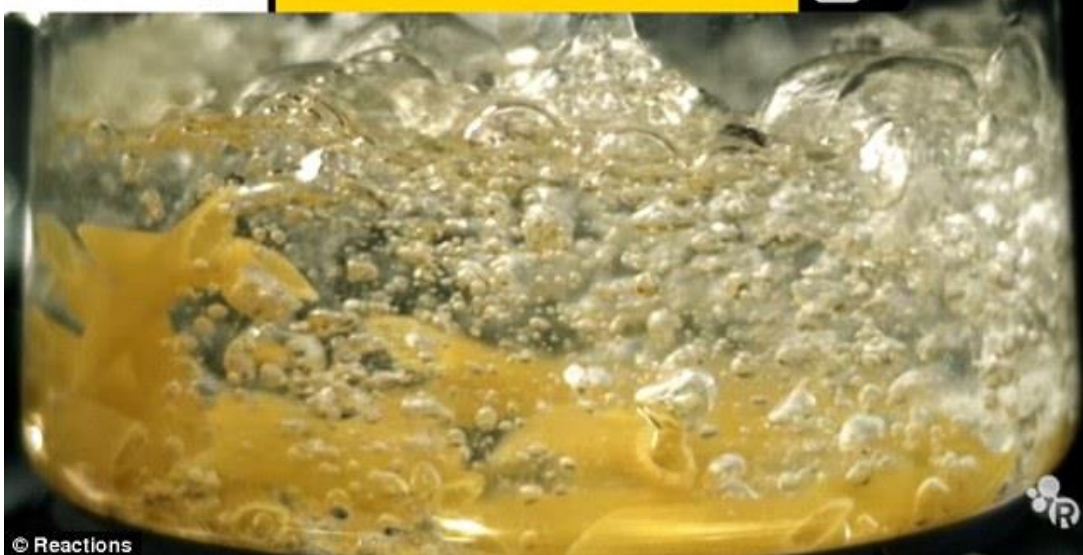
During the cooking process, the protein and starch interactions are manipulated to get perfect al dente noodles. While the pasta is cooking, water is absorbed by the starch particles, which in turn form a gel that makes the pasta soft and somewhat gummy.

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While the pasta is cooking, water is absorbed by the starch particles, which in turn form a gel that makes the pasta soft and somewhat gummy.

But because the proteins have formed a tangled web around the starches, they are trapped inside of the pasta – otherwise the pasta would be sticky and clumpy.

PRO TIP #1 | KEEP A ROLLING BOIL



While the pasta is cooking, water is absorbed by the starch particles, which in turn form a gel that makes the pasta soft and somewhat gummy. Experts say it is important to keep the water boiling and stir the pasta as it cooks.

PRO TIP #2 | SKIP THE OLIVE OIL



Although some believe adding olive oil to pasta keeps it from sticking together, experts say it makes no difference because it is washed off when you strain the pasta.

However, Reactions noted that if you do not stir the pasta, you will also end up with a pall of stuck together noodles.

'It's one reason cooks like to keep their pot at a rolling boil, so the pasta pieces keep moving and don't stick to each other,' There are different techniques people use that they argue will serve up the best tasting pasta.

Top chefs preach that you should skip pouring olive oil into the pot while the pasta cooks, as it will keep the sauce from sticking to it.

PRO TIP #3 | ADD SALT!



Adding salt to the pasta as it cooks will enhance the flavor and as the expert said in the video ‘if you were to enter a food competition without salt, you would not last very long. However, some are firm believers that oil keeps the pasta from sticking together.

But food scientists say it does not make a difference which side you take – when you pour out the cooked pasta into a strainer the water washes the oil away.

There is only a small step that the average cook can take to ensure delicious tasting noodles.

PRO TIP #4 | ADD THE PASTA WATER TO YOUR SAUCE



The last tip he shared in the clip is adding a ladle full of salty, starch water to the sauce to help it stick to your penne. By Adding salt to the pasta as it cooks will enhance the flavor ‘if you were to enter a food competition without salt, you would not last very long.

The last tip is adding a ladle full of salty, starch water to the sauce to help it stick to your penne. But do not rinse the pasta after it is finished boiling, because you’re rinsing off that stick starch.