

## Unit –V

### PASTA PRODUCTS

#### Pasta

##### Classification of Pasta

Pasta refers to the staple food of tradition Italian cuisine which is made using dough, water, eggs, vegetables, and oil. The dough is kneaded into various shapes some of which are known as penne, spaghetti, farfalle, fettuccine, barbine, etc. The size and shape of the holes in the die determine the type of pasta.

To make vermicelli and capellini, the pasta dough is pushed through holes between 0.8-0.5 mm in diameter. The cutting machine then cuts the pasta into lengths of 10 inches (250 mm) and twists it into curls. Spaghetti ranges from 1.5-2.5 mm in diameter and is left straight.

Tortellini (filled pasta rings) are made on a separate machine. The machine cuts small circles from a roll of dough. A bucket of ricotta cheese mixture drops a pre-measured amount of cheese onto the circle of dough. The dough is then folded over and the two ends are joined to form a circle.

To make ravioli (filled pasta squares), premeasured quantities of cheese filling are dropped by machine at pre-measured intervals on a sheet of pasta. Another sheet of pasta is placed over this sheet as it moves along a conveyer belt. The two layers then pass under a cutting machine that perforates the pasta into pre-measured squares.

##### Pasta Processing

##### Dry Pasta

Mixing and kneading- The semolina is stored in giant silos that can hold up to 150,000 pounds (68,100 kg). Pipes move the flour to a mixing machine equipped with rotating blades. Warm water is also piped into the mixing machine. The mixture is kneaded to a lumpy consistency.

Flavoring and coloring- 2 Eggs are added to the mixture if the product is an egg noodle. If pasta is to be a flavored variety, vegetable juices are added here. A tomato or beet mixture is added for red pasta, spinach for green pasta, carrots for orange pasta. Herbs and spices can also be folded in for additional flavoring.

Rolling- The mixture moves to a laminator where it is pressed into sheets by large cylinders. A vacuum mixer-machine further flattens the dough while pressing air bubbles and excess water from the dough to reach the optimum water content of 12%.

**Pasteurization-** The roll of dough moves through a steamer, which heats the dough to 220°F (104°C) in order to kill any existing bacteria.

**Cutting-** Depending on the type of noodle to be produced, the dough is either cut or pushed through dies. Ribbon and string-style pasta—such as fettucine, linguine, spaghetti, and capellini (angel hair)—are cut by rotating blades. To make tube or shell-shaped pasta such as rigatoni, ziti, elbow macaroni, and fusilli, the dough is fed into an extruder which then pushes it through metal dies.

**Drying-** The pasta is placed in a drying tank in which heat, moisture, and drying time are strictly regulated. The drying period differs for the various types of pasta. It can range from three hours for elbow macaroni and egg noodles to as much as 12 hours for spaghetti. The drying time is critical because if the pasta is dried too quickly it will break and if it is dried too slowly, the chance for spoilage increases. The oxygen level in the tank is also regulated, and lab technicians test frequently for salmonella and other bacteria. Careful handling of the pasta during the drying period is also crucial. Spaghetti is the most fragile of the noodles and is therefore hung high above the floor.

**Packaging-** Fresh pasta is folded in pre-measured amounts into clear plastic containers. As the containers move along a conveyor belt, a plastic sheet covers each container and is sealed with a hot press. At the same time, a small tube sucks the air of the container and replaces it with a mixture of carbon dioxide and nitrogen to prolong the product's shelf-life. Labels listing the type of noodle, nutritional information, cooking instructions, and expiration date are attached to the top of the containers. Dried pasta is loaded, either manually or by machine, into stainless steel buckets (usually of heavy gauge type 304) which move along a conveyor belt to the appropriate packaging station. The pasta is measured by machine into pre-printed boxes, which also list the type of noodle, ingredients, preparation, and expiration date. Again, careful handling is important. For example, because lasagna noodles are particularly fragile, workers place them on metal slides that ease the pasta into boxes. The boxes are then sealed by machine.

**Frozen Pasta:**

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Frozen

The product is freeze below -18°C and during cooking it removed from freezer and under goes thawing process.