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## – Chapter 9 –

# Toppings

**T**he final part of pizza is the topping. Toppings add special flavor, impart distinctiveness, and build the average ticket price. Although many pizzerias buy ready-to-use toppings, some still prepare toppings on-site. This chapter describes the main kinds of toppings and explains how to purchase and prepare them.

### The Ready-to-Use Option

Today virtually every popular topping can be purchased in ready-to-use form — requiring little or no on-site preparation. So a key question facing pizzeria owners is whether to buy unprocessed ingredients and prepare them on-site or go with ready-to-use products. Excellent pizza can be created either way.

The main advantage of ready-to-use toppings is the elimination of problems incurred with on-site preparation. Summarized, this includes doing away with the mess, hassle, and work of preparation. It also reduces the chances for mistakes, production waste from poor preparation methods, product inconsistency and, in the case of meat, removes the inconvenience of handling raw product.

The main drawback of ready-to-use toppings is higher food cost (however, that depends on the amount of waste and trim incurred by on-site preparation). It also takes away the opportunity to advertise custom-prepared products. Whether or not this is an advantage for most pizzerias is debatable. For more discussion on unprocessed vs. ready-to-use toppings, see the On-site Preparation vs. Ready-to-use chapter.

IN CONCLUSION, there is no one right answer regarding ready-to-use versus on-site preparation. An excellent pizza can be made either way. The choice depends

on what your customers prefer, as well as the situation and priorities of your business. This chapter describes both options as they apply to various toppings.

## Toppings Popularity

Nationally, pepperoni is the most popular topping in the United States. According to a pizza magazine survey, about eighty five percent of pizzerias rank it #1. Italian sausage is second and mushrooms are third. Other widely used toppings include ham, ground beef, chicken, onion, green pepper, bacon, olives, pineapple, and tomato.

Other toppings found in many pizzerias include such items as shrimp, salami, hot pepper rings, and anchovies. And then there are numerous “exotic” toppings used on specialty pizzas.

## Pepperoni

Presumably pepperoni originated in southern Italy (although some say it started in America). The distinguishing ingredient is cayenne (red) pepper. Since that spice comes from the peperone plant, as Italians call it, the sausage came to be known as pepperoni.

### *Composition*

Pepperoni, also spelled peperoni, is made with beef and pork. The U.S. Department of Agriculture (USDA) specifies that it must not contain more than 55 percent beef. About a dozen different meat cuts can be used in making the sausage. The exact determination of what cuts to use depends on the manufacturer’s quality and production philosophy.

Percent of fat is typically 40 to 45 percent of total sausage weight. However some companies make products with less fat, sold at a higher price. Generally speaking, the higher the fat content, the cheaper the pepperoni, and vice versa.

Many types of pork and beef cuts can be used in making pepperoni. It’s important that they be fresh and of low pH (i.e., of high acidity). Older meat can result in the fat turning rancid in the pepperoni. Typical cuts might be boneless picnic (pork), lean bull meat, and high-fat belly and navel cuts (both pork and beef). To achieve lowest possible cost some manufacturers vary the types of cuts as market prices

fluctuate — a process called “least cost formulation.” Other pepperoni-makers stay with the same formula, believing that it makes for more-consistent quality.

The main seasonings are cayenne pepper, anise, paprika, and salt. Pepper and anise are the distinguishing flavors. Paprika helps mellow out the flavor and also imparts an orange color to the fat, making it less noticeable. Salt — of which pepperoni contains 4 percent — acts as a preservative and flavor enhancer. In addition some pepperoni-makers include black pepper, garlic powder, fennel (an anise-flavored spice), and dextrose (i.e., corn sugar).

For preservation, pepperoni must have high acidity (low pH). To create it, manufacturers add lactic acid bacteria.

To qualify as *pepperoni*, the USDA standard says it must consist of no more than 1.6 parts moisture to 1.0 part protein, or have a moisture-to-protein ratio of 1.6-to-1.

### **Pizza Sausage**

If the sausage contains higher than 1.6-to-1 moisture-to-protein ratio the product cannot be labeled pepperoni but must be called “cooked sausage for pizza” or “pizza sausage.” Pizza sausage might also be extended with soy protein to reduce its cost. Some manufacturers market pizza sausage under a brand name that resembles “pepperoni” but isn’t spelled exactly the same. This enables them to legally deviate from the USDA pepperoni specification while, at the same time, market a product in competition with real pepperoni. Depending on ingredients, some brands of pizza sausage are not inferior to pepperoni, only slightly different in composition.

From here on we only refer to pepperoni. However, because of the similarity of pepperoni and pizza sausage, most of what we say about pepperoni also applies to pizza sausage.

## ***Pepperoni-making Process***

To understand how brands may vary it helps to know how pepperoni is made. The exact procedure varies between manufacturers, but here’s a typical sequence.

FIRST, large cuts of pork and beef are coarsely ground in a meat grinder, sometimes called a block grinder. The holes in the grinding plate are approximately 3/8-inch diameter. Instead of a grinder some pepperoni-makers use a bowl chopper, also called a silent cutter. It’s a large version of the food cutter or

“buffalo chopper” found in many kitchens. With a bowl chopper, a manufacturer can cut the meat into small chunks in one process (thereby avoiding step 3 below). When a grinder is used the product must be passed through a second grinding step. To reduce fat smearing, the product must be maintained at low product temperature — around 30 to 32 degrees F. (Fat smearing can cause pepperoni to grease-out during baking).

SECOND, seasonings, starter culture, and other ingredients are added to the meat and the mixture is stirred in a blender for 2 to 3 minutes. Seasonings might include cayenne (red) pepper, anise, paprika, black pepper, fennel, garlic powder, and smoke flavoring. Starter culture consists of lactic acid bacteria that destroy harmful bacteria and also raise the product’s acidity. The result is improved product flavor and extended shelf life. Other ingredients include salt, sugar, citric acid, and possibly water. A high salt level — approximately 4 percent — helps preserve the product. To promote acid development, a monosaccharide sugar (i.e., glucose or dextrose) is included.

To reduce fat smearing, the product must be kept cold and mixing kept to a minimum.

THIRD, the meat mixture is ground to smaller size in a second grinder (or by continuing to chop it in the silent cutter). Typically the grinding plate hole is either 5/32-inch or 3/16-inch diameter. Pepperoni for pizza is usually made with a smaller hole; deli-style pepperoni may use a larger size. A kick-out blade on the grinder pushes out large pieces of sinew that don’t fit through the holes. Some pepperoni-makers discard this sinew, others, in an effort to lower cost, chop it fine and put it back into the mixture.

FOURTH, the mixture is extruded into a casing. This is known as the stuffing operation. It’s done at about 30 to 32 degrees F. Too high a temperature can cause fat smearing. Too low of a temperature can result in excessive condensation on the product surface. This, in turn, can mandate extended drying time and higher product cost.

Casings come in various types and sizes. The original casing, known as natural casing, is animal intestine — i.e., hog and sheep gut. Most casings used today are artificial and they come in both non-edible and edible versions. Non-edible must be removed before slicing the product — it’s the most common type. Edible casing is left on the sausage. During baking it resembles the performance of natural casing in that it shrinks slightly, causing the pepperoni slice to cup — a feature that some pizzeria owners hate and others love.

After stuffing, the sausage links are hung on mobile racks.

FIFTH, the racks of sausage are put into a pre-drying room, also known as a green room, curing room, incubator, or smoke house. This stage and the drying stage (step 7) are the trickiest part of pepperoni-making and where most problems occur. In pre-drying, the temperature starts at about 80 degrees F and is gradually raised to 128 degrees F over a 22 hour period. During this time the lactic acid bacteria (i.e., starter culture) destroy harmful bacteria and also increase the product's acidity. Because this process is vital to product safety it's carefully monitored by electronic equipment and government inspectors. Also, if the temperature is raised too rapidly the meat might not bind properly, which can result in poor slicing quality and grease-out during baking.

During the last two hours of incubation the sausage is smoked. Some manufacturers use "liquid smoke" applied with an atomizer, which fills the room with a mist. Other pepperoni-makers use real smoke created by burning hard wood chips. They believe that real smoke produces a less bitter flavor than liquid smoke.

SIXTH, the sausage is sprayed with water to cool it to 100 degrees F and then it's moved to a stabilizing room for 2 to 3 hours where the product gradually cools to room temperature.

SEVENTH, the sausage is put into a drying room for 14 to 17 days. Moisture in the sausage slowly evaporates until the product's moisture-to-protein ratio is 1.6-to-1 — at which time the product qualifies to be called pepperoni. (In making pizza sausage this step is either omitted or reduced in length.)

In the drying room the sausage becomes dryer, firmer, narrower in diameter, darker colored, and more strongly flavored. Maintaining optimum drying room conditions is vital to pepperoni quality. The temperature (about 55 degrees F), humidity, and air flow must be precisely maintained to achieve the proper rate of drying. Basically, moisture must evaporate from the surface of the product at the same rate that it migrates from the center of the product to the surface. To achieve this, sophisticated control systems are used. If the product dries too fast, "case hardening" occurs, which seals the surface and prevents interior drying — possibly resulting in spoilage. If drying occurs too slowly it can result in excessive surface mold.