

# The World of Spices

With Ann Wilder



## A Discussion of Spices



At one time, spices were the most expensive item in a household account and were usually locked away in drawers for safe keeping. **A pound of ginger would buy a sheep, a pound of cloves was worth about \$20 and pepper, the most expensive spice of all, was sold by individual peppercorn.** Today, however, the price of spices is the least expensive ingredient in any dish and oftentimes makes the most significant difference in the final outcome of that dish.

Barbecue cooks know the importance of selecting and purchasing the best spices. However, finding the best is often a problem. **There are four major determining factors in selecting spices: flavor, aroma, heat and color.**

**Volatile oils** are largely responsible for a spices's characteristic flavor and aroma. On the world market, spices are graded according to the amount of volatile oils present in the product. Naturally, the higher oil content, the more flavor, and the better spice. Ask your spice supplier what the volatile oil content is of the particular spice you are interested in purchasing. Of course, this question is more critical to some spices (such as cinnamon, paprika and nutmeg) than others.

Also, **the country origin** of herbs and spices, **the growing conditions** such as soil content, rain and heat are all factors which will give you information on the quality of a specific spice. Just like wine grapes, whose flavor differs depending on where they are grown. A spice's flavor is characteristic of the environment in which it is grown.

Pepper, as well as most other spices, grow in a band within 10 to 20 degrees of the equator around the world. Any country within that band probably grows pepper, however, quality varies widely. Most spice experts agree that Tellicherry pepper is the best of the black peppers with Malabar pepper rating second. Both grow on the east coast of India. Tellicherry is a large berry, very black, with a bold flavor, whereas Malabar is slightly less black, smaller and less pungent. Pungency is the hot sensation produced in the mouth by constituents of spices such as pepper, chilies or ginger which also contribute to flavor.

Other peppers of good quality can be found in Indonesia, Malaysia and Thailand. The most abundant pepper, and the one usually available in the U.S. market, is Brazilian black. Unfortunately, it is much less flavorful, less uniformly black and smaller.

**Freshness is also a critical factor in flavor and aroma.** Whole spices retain their flavor best, but as soon as spices are ground, the flavor and aroma begin to fade. **The aroma deteriorates first.** If you can buy whole spices and grind them yourself, you will have a much better product, however, that is not always possible. My advice is to demand freshly ground spices whenever possible. Beware, many spice companies hold spices in warehouses for months, even years. **Aroma and fragrance are perhaps the most important and least understood factors in spice buying.** We know our sense of smell excites our sense of taste, and when both senses are excited, foods taste better. Therefore, if a spice is not fresh, the fragrance is the first noticeable loss. Herbs and spices should have a fresh, clean, distinct aroma. **Heat, another determining factor when selecting a spice,** is measured in the spice trade in scoville units. Heat units, or scoville units may run from mild (1,200 units) to a very hot (6,000 units). Chilies particularly are bought often by selecting the amount of heat units. I found a chili in China reported to be 20,000 units!

On the whole, pepper and ginger are less hot and are more often described as pungent. Peppers can be purchased that are more or less pungent. Tellicherry pepper is the most pungent, while Sarawak is the least pungent.

**Finally, color is most important for the visual impact of a dish.** Once again, some peppers are blacker than others. Tellicherry is the blackest of the black peppers, where Brazilian black pepper is often rather gray. Imagine the difference that would make if one was grilling peppered salmon steak.

**The color in paprika is determined by ASTA levels.** ASTA level is the amount of color that can be extracted in water. ASTA levels run from pale, 90 ASTA to rich, 140 ASTA. In the same context, a pale paprika would be unappealing to the eye on potato salad.

Knowing how to select spices for flavor, aroma, heat and color and how to combine flavors to achieve a simple and pure result will make us more confident cooks. In the next column, we will begin to talk more about specific flavors and combinations.

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## Pepper is nothing to sneeze at . . .



I like spicy food, I like the people that cook it and the countries where it is grown. For over 4,000 years, pepper has been the most popular spice worldwide. In fact, it has been so popular that at one time a pound of pepper was thought to be a most elegant gift for a king. Pepper is the most important ingredient in spicy food, and particularly to those of us who love barbecue.

All true peppers, black, white and green peppercorns, come from one plant, *Piper nigrum*, which grows around the world within 20 degrees of the equator. **There are at least 13 designated types of black pepper**, usually named for the port from which they are shipped or the area where they are grown. Since no pepper is grown in the U.S. we are dependent on imports exclusively.

Peppercorns come from berries which grow in clusters on 20 foot vines. One vine will produce 20 pounds of pepper in one year. Generally peppers are grown on a cooperative with a family owning from 1 to 20 vines, depending on the number of members old enough to pick. One person can pick 1 to 2 vines per day. Because of the intense heat, pepper is picked starting before sun-up and ending before noon.

Black pepper is the unripe berry which has been picked and allowed to ferment and then dried. Usually they are placed on the ground and sun-dried. Occasionally, charcoal fires are used to speed up the drying. After peppers are dried, they are graded and shipped to the local pepper board which is responsible for selling them to the world market.

Because pepper begins to lose its flavor and aroma as soon as it is ground, freshly ground pepper should be used as soon as possible. Both white and black pepper is available in grinds defined by the mesh size on a sifting screen. The range is from finest shaker grind 30/60 mesh to largest 6/10 which is about the size of halved peppercorns.

**Tellicherry** pepper from India is considered the most complex, balanced and elegant of the black peppers. It is actually a special type of Malabar Pepper which has been allowed to ripen completely so that it develops more flavor, sugar and size. Its aroma is sweet and spicy. Its flavor is rich and bold.

**Malabar** is a more widely produced Indian pepper. It has a spicy resinous aroma and a complex flavor -- more hot and biting than Tellicherry.

**Lamong** is the most mass-produced pepper in Indonesia. Its flavor and aroma are similar to Malabar, but less perfumed and less complex. It has balanced heat and, therefore, it is useful where extra punch is needed.

**Sarawak** is the primary peppercorn of Malaysia. It is smaller, lighter in color, with much less heat. It has been the pepper of choice for the British for most of this century. For the last 10 years, it has been rarely available in this country. In some years the British have bought the entire crop. In other years it has not met ASTA standards for cleanliness. VANN's has occasionally been able to purchase relatively small amounts. Our products are cleaned for us in Singapore using super-heated flash steam heat and freezing to sterilize; therefore, we have circumvented the problem of ASTA standards.

**Brazilian black** and **Thai peppers** are the most commonly sold in the U.S. They vary in quality and tend more to heat and sharpness than developed aroma.

**White pepper** is produced from the same peppercorn as the black, but have been ripened more completely and are processed by soaking them in water until the dark outer skin is softened and the shell is then removed. The resulting pale peppercorn is sun-dried like the black. White is the pepper of choice of much of Europe and parts of the Orient. Its aroma is more earthy and has less heat and pungency.

**Muntok**, off the southwest coast of Sumatra, is considered the finest and is usually the only white pepper to bear a name of origin.

**Sarawak** also has, in the past, produced a fine white pepper. It is whiter than Muntok, producing a berry which is white clear through. It is much whiter than Muntok and, therefore, is a good choice for simple seasoning. However, because white pepper takes more processing and has been bringing lower prices than black pepper in the last few years, farmers in Malaysia have stopped producing it.

**Green peppercorns** are picked green and processed. If the processing is done by the village, they are packed in brine and sent out for further processing. They may be kept in brine and canned and sold. However, freeze drying and air-drying green peppers are more popular as they can be used in more applications.

**Freeze-dried green peppers** are very lightweight and paper thin. The color is clear, light green with a smooth skin. The aroma is fresh, peppery and the flavor is sharp, not, bitter, fruity, and has a green herbal taste. It is never as hot as black or white pepper.

**Dehydrated green peppers** are wrinkled, heavier than freeze-dried, and in color, a gray-green. The aroma is light and peppery and the flavor slightly bitter and sharp. They are slightly salty and are often used as a salt substitute.

Sweet hot is the flavor we all love. We are all familiar with the use of pepper to create sweet hot in savory dishes. Less well known is the use of sweet hot in desserts. Pepper cookies appear often in Scandinavian cuisine. This year, the rage in New York has been pepper ice cream. One of the gold medal winning desserts at the Culinary Olympics was Brandied Pepper Strawberries.

### **BRANDIED PEPPER WITH STRAWBERRIES**

- 2 Cups fresh strawberries (halved)
- 1/2 Cup champagne
- 1/4 Cup brown sugar
- 1 Teaspoon corn starch
- 2 Tablespoons Brandied Pepper
- 1/4 Cup Grand Marnier

In a small sauce pan, combine champagne and strawberries. Bring to a boil and add brown sugar while stirring. Add Brandied Pepper and corn starch. Remove when it begins to thicken. Add Grand Marnier and ignite. Serve over ice cream.

Marinades prepared by barbecue cooks are unique to each; however, common to all is the sweet, salty, peppery concoction of spices blended for that special taste. Pepper is a critical agent in that blend.

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## The Mystery of Salt



I am just back from the **Culinary Professionals Conference**, where I am happy to say, I ran into some friends from the barbecue industry. I am glad to see this crossover. After all, Barbecue is one great American contribution to the food world. While there, I talked with Chris Schiesinger, author of *The Thrill of the Grill*, and Barbara Troop of *China Moon* fame, who, like me, are on soap boxes about the importance of the right salt as an ingredient, and the necessity of understanding the use of salt.

**We take salt for granted. We use it everyday, in fact, we would die without it.** In spite of that, only two books in my reference library mention salt in any way other than an ingredient in a recipe, and one of those is the Knotes' book on Barbecue.

How salt functions is a bit of a mystery. Salt adds its own flavor to a dish, but also enhances some flavors and inhibits others. It tends to lessen the bitter taste and smoothes out harsh tastes so that flavors blend more harmoniously.

All salt was originally a marine product. Some salt is mined from deposits left after seas receded or dried-up. The salt is extracted, boiled down, and crystallized in various degrees of fineness. Sea salt is extracted from ocean water.

For 99 % of Americans, **table salt** is the only salt they know. It is finely ground, highly refined with both added iodine and free-flow chemicals. I think table salt is nasty. Taste it for yourself.

**Rock salt** refers to the salt used for ice cream machines.

**"Coarse salt" is a common name for kosher salt.** In my own cooking, I have always used kosher salt without knowing why. If asked, I would have said I felt I had more control or that it dissolved easier. Not so, it tastes better. When I became involved in the spice business and began constantly tasting and evaluating products, I discovered kosher salt is less harsh, less bitter, and less salty.

It is a great background salt. I use it to enhance other flavors. A simple example is the way chicken stock changes with the addition of kosher salt. When the stock is reduced and before the addition of salt, I taste strong (hopefully) chicken flavor; after adding salt, I taste chicken, carrots, onions, and the other vegetables.

**Sea salt** is saltier and has a brighter flavor. I use it as a finishing salt or an accent salt. Sea salt is obtained by evaporation of sea water, either naturally or artificially from evaporation pans.

If you were at the NBBQA Convention, you have already experienced my taste test on salt. For those who were not there, I urge you to taste it for yourself. It is simple: taste kosher salt, then sea salt, and finally Morton's, or any other table salt.

Salt has other uses, e.g., for thousands of years before refrigeration, salt was used as a preservative. It is still widely use for preserving olives, cheese, and seafood, as well as for curing. Salt preserves by drawing out the moisture, therefore, limiting the humid environment that fosters bacterial growth.

Salt can be a cooking agent. Gravlax, a traditional Swedish dish, can be prepared at home.

### **Gravlax**

6 Tbsp. Sugar  
6 Tbsp. Salt  
2 Tbsp. Black Pepper (Coarse) Fresh Dillweed  
2 Lb. Salmon Fillet

Mix salt, sugar and pepper. Cover 1/2 fish with 1/2 spice mixture. Cover with a layer of dillweed. Cover dillweed with remaining spice mixture. Place second salmon fillet on top, skin side up. Wrap with plastic wrap and weight down with heavy pan. Place in coldest part of refrigerator for 24 to 36 hours. Serve with rye bread and dill-flavored mayonnaise.

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## WHAT THE BIG BOYS KNOW . . .

Large companies such as Kraft or Campbell Soup have many advantages of course, and I would like to address two of them, one in this article, and the other next month's issue. First, they employ talented, trained tasters, and secondly, they have access to many ingredients that are not available to home cooks and, therefore, are largely unknown.



When I was doing contract work for Kraft several years ago, I was amazed at the quality of their tasters. On one occasion, everyone on the panel immediately detected a change in the type of paprika used in a batch from one used in a prior batch, even though there were at least 15 ingredients and the paprika was only a small part of the whole. On another occasion I switched wine vinegars from regular wine vinegar to aged wine vinegar. One young woman pronounced "I taste oak".

All of us are talented or we wouldn't be interested in outdoor cooking. What we lack is not talent, but training. There are classes in tasting in some large universities. If you are not close to such a school, as most of us are not, we can train ourselves.

Most of us know a great deal intuitively. We all have been interested in flavor and playing with flavors for years. To become confident about flavors, start by carefully tasting one flavor and asking questions. Where in the mouth do I taste? Is it in the front of the mouth, the side of the tongue, the back of the tongue, in the throat? What are the characteristics -- sweet, sour, pungent, hot, bitter, astringent? Does the flavor linger? When you understand that flavor, add another one, and then another.

Notice the aroma. Our sense of smell heightens our sense of taste. Because barbecue is always so aromatic, we may have a tendency to forget this important area.

Do they marry, i.e. do they come together and form a brand new flavor, something superior or something entirely new? Chili powder is an example of a flavor marriage. The secondary flavors marry with the primary ones and create a new flavor much greater than the sum of its parts. When ginger and molasses marry, they create a flavor superior to either alone.

In another kind of marriage, one ingredient acts as a catalyst. Its function is not only to marry with another ingredient, but also to change it. Salt is the most common catalyst. It marries with other flavors and makes them brighter.

Acids are superior catalysts. Vinegar, lemon and lime, as well as wine, keep primary flavors from disappearing. White wine vinegar punches up the flavors of herbs and is often used in sauces for fish, while red wine keeps the flavors of beef stew intact. Vinegar lifts certain flavors out of the background and makes them more prominent.

Are the flavors opposite? Do they balance? Do they cancel each other out? Do they emphasize the flavors? Sweet/sour, sweet/salty, sweet/hot are all opposites which emphasize the flavors. No cuisine is more dependent on opposites than barbecue. Sweet and sour is our name. Getting the right balance is the trick. Equal amounts of sugar and salt will actually cancel each other out. Keep in mind sour flavors balance salty ones, sugar cancels bitterness, i.e. in cocoa; sugar cancels the bitterness and makes the chocolate wonderful. Spicy flavors are balanced by fruity ones, which is why pepper is good on strawberries and great in a sweet wine sauce.

A second advantage is the knowledge of unusual ingredients not available through grocery or specialty stores. These ingredients are available to anyone through spice companies and flavor houses. In some cases, the minimum order may be high, but many ingredients may be bought in reasonable quantities.

**SAVORIES** First, almost anything that is available wet is available dry. For example, dry Worcestershire sauce comes in several varieties. Most spice companies have one or more types. It's great in rubs, adding depth and complexity, and rounding out flavors.

There are several dry acids which add the sour to balance the sweet in rubs and seasoning mixes. Dry vinegar not only creates balance, but also adds interest and sparkle. Try vinegar in combination with citric acid for a more complex flavor. Citric acid is very close to lemon and may be substituted for lemon in most recipes. Malic acid is milder, with very little flavor and is used successfully in raising the acid level in bottle sauces without changing the flavor.

Soy sauce is the primary ingredient for barbecue in other countries. We are missing a beat by ignoring this oldest known cooking ingredient. Not only does it add a salty note, but it also adds rich, deep notes, a wonderful chocolate color, and in the background, an incredible flavor which is not quite burnt and not quite caramelized - - very hard to describe - - but delicious.

All varieties of smoke flavors are sold; not only oak and mesquite, but apple, cherry, and many others. Old wine barrels soaked with wine and turned into chips are coming on the market. These all are great with stove top smokers or grills. Whether they would add significantly to real barbecue remains a question.

**SWEETENERS** Molasses is sold dry in several varieties from very sweet to slightly bitter. There are a number of varieties in honey as well as clove, sage, and orange blossom, to name a few.

corn syrup is another sweetener available in granular form. All are useful in rubs either by itself, or in any combination with other sweeteners. Each sweetener has its own special flavor profile.

Caramel, or burnt sugar, is available in light, medium and dark brown. Do not expect caramel to sweeten the product, it is for color only. Sulfites are sweeteners added as a preservative. Use sparingly, a little goes a long way.

Sweeteners are so complicated that we will need to discuss them in further detail at a later date.

**YEAST** Is one of the major secrets of manufacturing companies and is used primarily to enhance flavors. Most often yeast is added to increase the perception of salt and spices without adding salt. There are specific yeasts for specific jobs. Want a grill note? Try a yeast - - it rounds out a flavor! Some produce a creamy mouth feel, or a fatty feel without adding either cream or fat. These are terrific for low fat barbecue sauces. Any flavor house can help you with your particular problems.

**GUMS** The use of gums is least well known to the general public and may be the most important ingredient to the barbecue industry. Popular gums are Xanthin, Guar and Locust Bean. All are natural products derived from vegetables or seaweed. Gums aid in emulsion, keep oil and other ingredients from separating, produce a rich mouth feel and add bulk to thin products. All are used in amounts less than 1%, and do not affect the flavor. Magic!

I have chosen only a few ingredients of particular interest to our industry. Knowing how to combine many flavors and aromas for a pleasing result and knowing when not to combine, or what not to combine, is the difference between merely good and superior food.

All this may sound too intellectual when good eating is anything but intellectual. Hopefully, thinking about flavors and aromas will add confidence to your choices.

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