

Getting to Know your Spices (Emphasis on Northern Europe)

University Session 91

September 19, 2015

Lady Lisette la Roux

Through out civilization, spices played a significant part of history. Known as the first globally traded commodity, they not only were utilized by different classes, but also represented a calculated display of wealth, prestige, and splendor. Spices served to flavor and preserve cuisine, were used for their medicinal properties, provided fragrances for perfumes, and were symbols of social and political prominence. The focus for this discussion will be to provide general knowledge on a few examples of the wide range of spices available well before the 17th century in Northern Europe.

During the 12th through the 17th centuries the spice trade constituted the most profitable aspect of the European market, specifically in Spain and Portugal. Before mid 16th century, Venice was the central point for trade in Italy and provided the most profit for the Arabs and Italians spice merchants. (Munro, 1988) The use of spice was complex. Not just as a condiment or flavor, but also for their aesthetic properties (such as saffron for coloring), or for embellishment of subtleties (such as sugar).

The most important spices in medieval recipes were: pepper, cinnamon, ginger, and cloves. (Freedman, 2003) Saffron, nutmeg, and mace were also used but cost considerably more, so held prestige and value. An early 14th century handbook written by Florentine merchant Francesco Pegoloti mentioned 288 spices, including long pepper and grains of paradise. (Freedman, 2003)

An interesting note on the use of spices in medieval recipes; modern palettes are not as accustomed to the large quantity of spices used in medieval recipes. Why did they use so much? A common thought was that spices were used to disguise bad meats. This is not true. A collection of recipes in late medieval French and England provide proof that large quantities of spices were used in feasts that also called specifically for fresh or "good" meats. Historically, spices cost more than fresh meat, thereby making the use of spices on bad meat a profound waste. These feasts were often created for special occasions lending to the concept that spices were a show of wealth and splendor. Another theory on the large amount of spices in recipes suggests that because spices were also used for medicinal purposes, the increase in spice aids the body for digestive or curative properties, becoming objects of conspicuous consumption and a mark of the elite. (Freedman, 2003)

It is very hard to pin point the relative value of spices, mainly because of mark ups that were at the whim of the merchant and the location of spice merchants

trade during this period. Spice merchants benefitted from tremendous price margins; mainly due to transport and transfer costs over long distances, especially from Asia to Western Europe and when traversing over dangerous land routes. Much like today, commodity prices were also determined by political and environmental concerns such as harsh weather conditions or political concerns such as relations between Muslim and Christian factions. Even after the sea routes were established, the long distance and treacherous route around Cape of South Africa did not lower the costs. Prices ranged from 10 to 100 times higher than paid at the source. For example Venetian prices were estimated at 100% mark up (Freedman, 2008). Another example, Barcelona merchants imposed a 25% mark up for pepper, 41% for cinnamon, and 20 % for cloves - while Venetians saw a 72% mark up for cloves and nutmeg for as much as 400% profit. (Freedman, 2008) John Munro, an economic historian at University of Toronto, calculated the price of spices in England in 1439 using a skilled London's craftman's wage as a yardstick for comparison. This will be pertinent when the specific spices are discussed.



Cinnamon: (*Cinnamomum zeylanicum* and *Cinnamomum cassia*)

Plant / Natural State: Dried bark of evergreen laurel trees in *Cinnamomum* family. (Spice Encyclopedia, 1997-2015).

Description: Sweet, woody fragrance in both ground and stick form. True Cinnamon is the inner bark of the tree, removed in thin layers, laid as sheets and dried, resulting in a lighter brown layered cigar like formation. Cassia is reddish brown and is cut in square pieces from the bark in thicker sheets. When dried, it forms a scroll like shape.

Fun Fact: Egyptians imported from China in 2000BC using it and Cassia as perfuming agents during the embalming process. Romans believed it was sacred, Nero burned a years supply of Cinnamon at the funeral for his second wife Poppaea Sabina in AD 65 resulting in public outcry from what was seen as wasteful use of valuable commodity. (Synan, 2013)

One of the most commonly used spices and is one of the world's oldest known spices that was widely used, with references dating from 2800 BC in China. (Lawson, 2008) Also used for to aid in digestion, freshen breath, dye, some qualities as a food preservative, and as noted above, in religious ceremonies. (Freedman, 2008) True cinnamon originates mainly from Sri Lanka and Cassia from China. (Lawson, 2008). One of the main differences between the two spices is the level of coumarin, a chemical compound found naturally in plants with a vanilla like fragrance.

References in historical records are too numerous to mention, however one interesting note in history was the use of cinnamon as part of the Banquets celebrating the marriage of Duke George of Bavaria with the Princess of Poland in 1476, some used for gifts and some for the feasts themselves (205 pounds of cinnamon). Also, mentioned on many occasions in *Le Menagier de Paris* in a multitude of recipes as well as in the shopping list of items to buy at the grocers.

“Grind ginger, cinnamon, grains of paradise, nutmegs, livers roasted on a spit on the grill, and some saffron, diluted with verjuice.” (Greco & Rose, 2009 p. 291)

Using Munroe’s calculation, earning 8 pence per day, the cost of approximately a pound of cinnamon would require three days wages.



Cubeb: (*Piper cubeba*)

Plant / Natural State: Small red-brown irregular seed of a tropical, climbing perennial vine similar to a Cardamon plant. Sometimes also referred to as cubeb pepper, cubeb berry, or tailed pepper. Berries are found in a fig shaped dried case. Native to Indonesia, particularly Java, hence sometimes being called Java pepper. Furrowed, wrinkled, and slightly larger than peppercorns. They have a short, straight tail. It is harvested green and sun dried to deep brown black. (Norman, 2002)

Description: Peppery and slightly bitter with slight allspice nose and some hints of eucalyptus.

Fun fact: Javanese growers maintained their monopoly on the product by scalding the berries, thereby sterilizing them to prevent being grown in other areas of the world. (The Epicentre, 2015)

Not seen much in modern cooking, but was widely used in medieval kitchens as an alternative to regular black pepper. This spice was found in an inventory of a

Barcelona apothecary shop in 1353 noting among the inventory, Cubeb, Cinnamon, Galangal, and Nutmeg. (Freedman, 2008). Traded from the 7th century by Arab merchants. Cubeb was popular up until 1600s but is now not well know in the west except with spice aficionados. Originally, cubeb was used mainly for medicinal purposes, primarily for treating respiratory disorders. (Ortiz, 1992)



Galangal: (*Alpinia galanga*)

Plant: Closely related members of the ginger root family, Zingiberaceae.

Description: Same rhizome form as ginger, but more fibrous and dense than ginger and has a distinct aroma of camphor with flavor of ginger and cardamom combined. Although the two are of the same family and have similar appearance the tastes prevent the two from being used as substitute for each other. It can be used in many different states including fresh, dried, ground, or pickled.

Fun Fact: Dried galangal root was used for the protection against evil spirits during the medieval period in Europe.

Two different variations of galangal, “greater” (*A. galangal*) native to Java and “lesser” (*A. officinarum*) native to coastal regions of China. (Norman, 2002)



Grains of Paradise: (*Aframomum melegueta*)

Plant: Seeds of perennial reed like plant with showy, trumpet shaped flowers.

Description: Hot peppery taste with an aroma similar to cardamom without the camphor element.

Fun Fact: The name comes from Medieval spice traders looking for a way to inflate the price - it was claimed that these peppery seeds grew only in Eden, and had to be collected as they floated down the rivers out of paradise.

GoP is harvested from fig shaped capsules. The capsule is dried and becomes nut like. There are approximately 60-100 seeds per capsule and are naturally reddish brown. Originally brought to Europe in 13th century by Saharan caravan route and used as a substitute for true pepper. (Norman, 2002)

Found in various medieval recipe books including *Du fait de cuisine* (France, 1420), *Een notabel boecxken van cokeryen* (Netherlands, 1510), and *Libre del Coch* (Spain, 1520). *Personally, I have utilized it in hypocras and in seasoning meats.*



Saffron: (*Crocus sativus*)

Plant: Part of the Iridaceae family of flowering plants belonging to the order Lilales, specifically the stigmas of the saffron crocus or “roses”.

Description: The smell is rich, pungent, musky, and floral. Known for the golden color that it gives to the food.

Fun Fact: The cost of saffron is linked to the method of harvesting. Hand pollinated and harvested by hand, the plant flowers at dawn in Fall and wilts by the ends of the day. Therefore stigmas must be hand picked immediately upon flowering and oven, sun or smoke dried. (Lawson, 2008). Each rose contains approximately 3 stigmas. It takes 80,000 roses to yield 5.5 pounds of stigmas which produces only 1 pound 2 ounces of saffron after drying. (Norman, 2002).

Used in cooking since 10th century BC (Ortiz, 1992). Was also found listed in the Banquets celebrating the marriage of Duke George of Bavaria with the Princess of Poland in 1476, some used for gifts and some for the feasts themselves (207 pounds of saffron).

Based on Munro’s model, a pound of saffron would require 15 shillings or a month’s work or 183 pence (22 days worth).



Black Pepper: (*Piper nigrum*) (overlap)

Plant: Grows on a vine harvested in the spring and summer as green. Black peppercorns are green fruits that have been sun dried after fermenting. (Ortiz, 1992)

Description: Fine, pungent fragrance with warm, woody and lemony notes. Taste is hot and biting.

Fun Fact: Black peppercorns were found in the nostrils of the mummified Rameses II, which dates peppercorns back to 1213 BC. (Lawson, 2008)

Black pepper is considered the King of Spices. Several experts, including Norman, Ortiz, and Lawson, claim that the spice trade was built off the quest for pepper and was one of the first spices to be traded. Records of use go back as far as 4th BC in Sanskrit references to “pippali”. Ancient Roman grocers often blended juniper berries in with peppercorns to stretch the product and increase profits. (Ortiz, 1992) During the height of Roman influence, pepper was traded ounces for ounce for gold and used as currency to pay rents, dowries, and taxes. (Norma, 2002)

According to Munro’s chart, a pound of pepper would cost 18 pence or 2.25 days of work.



Long Pepper: (*Piper longum*)

Plant: A flowering vine or liana in the family Piperaceae,

Description: Usually used whole, the spikes on the fruit are harvested green and sun dried. Smells sweetly fragrant and resembles black pepper in taste however has a biting, numbing aftertaste.

Fun Fact: A recipe in the Kama Sutra calls for long pepper to be mixed with black pepper, other spices, and honey to create a concoction to be applied externally, with the promise to “utterly devastate your lady”. (Falkowitz, 2011)

Long Pepper is listed in certain recipes in several medieval recipes (as seen in specific reference in Forme of Cury, by Master of Cooks for King Richard AD 1390).

Pepper. It appears from Pliny that this pungent, warm seasoning, so much in esteem at Rome^p, came from the East Indies^s, and, as we may suppose, by way of Alexandria. We obtained it no doubt, in the 14th century, from the same quarter, though not exactly by the same route, but by Venice or Genoa. It is used both whole, N^o 35, and in powder, N^o 83. And long-pepper occurs, if we read the place rightly, in N^o 191.

Image courtesy of <http://www.pbm.com/~lindahl/foc/>



Ginger: (*Zingiber officinale*)

Plant: Underground stem or rhizome of a lush plant similar to bamboo.

Description: Knobby, branched root with a clean, fresh, spicy flavor. Can be used in many forms such as fresh, ground, pickled, even crystallized. Ginger is harvested twice annually, once yielding small thin skinned milder roots and the second yielding more fibrous and intensely flavored variety more commonly found in stores today.

Fun Fact: In medieval England, powdered form was sprinkled over beer in taverns. (Lawson, 2008)

Also listed as part of the Banquets celebrating the marriage of Duke George of Bavaria with the Princess of Poland in 1476, some used for gifts and some for the feasts themselves (286 pounds of ginger).

Used in the middle east and southern Europe well before Roman times. The Portuguese introduced to Africa. The Spanish took ginger to the West Indies. By the 1500's Spaniards had Jamaican ginger trade with continental Europe. (Ortiz, 1992)

One of the most common spices, also used to aid in digestion, aids in flatulence, to ward off colds. This is still the case today.

According to Munroe's chart, a pound of ginger would cost 1.5 days labor.



Cardamom: (*Elettaria cardamomum*) White (pastries), Green (Most used in cooking), and Black (used in heavily spiced dishes)

Plant: Part of the Zingiberaceae plant family, which also includes ginger and tumeric. (Woodward, 2003)

Description: Dried pods and seeds found in tropical areas such as India. The flavor is pungent, warm, and slightly camphorous. Used often in fruits, cakes, breads, wines, curries, and rice.

Fun Fact: After saffron and vanilla, is third most expensive spice, again due to the nature in which it is harvested. After the plant has flowered, the small green capsules must be harvested by hand, contains each about 20 seeds. Green is most common, white pods have been bleached and brown are not considered true cardamom, but simply a variation. (Ortiz, 1992)

Although seen most often in Indian and Middle Eastern recipes, Cardamom is often used in northern Europe applications for recipes such as hypocras, a spiced wine. Also used to counteract bad breath, headaches, fevers, and colds. (Munro, 1988)



Clove: (*Syzygium aromaticum*)

Plant: Part of the Myrtaceae family (or commonly known as Myrtle) of medium shrubs and trees grown in tropical climates, in good company with Eucalyptus, guava, and allspice.

Description: Cloves are derived from the dried flower buds and have a pungent, spicy, slightly peppery flavor. Used often in Spiced wines, stewed fruits, baked goods, and meats.

Fun Fact: Cloves grow on tall dense trees that would produce remarkable delicate flowers if the buds were not picked before opening.



Found as part of the Banquets celebrating the marriage of Duke George of Bavaria with the Princess of Poland in 1476, some used for gifts and some for the feasts themselves (105 pounds of cloves)

Cost of Cloves according to John Munro, in England in 1439, based on the 8 pence per day scenario, a pound of cloves would require four and a half days work (note Cinnamon was cheaper).



Nutmeg : (*Myristica fragrans*)

Plant: Part of the Myristicaceae family of trees found in moist tropical lowlands of areas such as Indonesia.

Description: Flavor is sweet, warm, and aromatic. The Nutmeg is actually the seed portion of the plant, where as Mace is the outside seed case. Nutmeg has a wide variety of uses in vegetables (specifically root), sweets such as cakes and custards.

Fun Fact: Considered a prized spice in Medieval Europe because it was thought to ward off the plague. (Lawson, 2008)

Was well known in Europe by the 13th century, however flourished in the 16th century when the Dutch, Spanish, and Portuguese were vying for control of several areas of the spice trade. (Lawson, 2008)

Found as part of the Banquets celebrating the marriage of Duke George of Bavaria with the Princess of Poland in 1476, some used for gifts and some for the feasts themselves (85 pounds of nutmeg)



Mace: (*Myristica fragrans*)

Plant: Part of the Myristicaceae family of trees found in moist tropical lowlands of areas such as Indonesia.

Description: Flavor is pungent, spicy and sweet. Mace is more commonly used in meat sauces and seafood.

Fun Fact: Mace is actually the outer casing of the nutmeg seed.

Found in several recipe books pre 17th century including A Book of Cookrye (England 1591), Du Fait de Cuisine (France, 1420), and Een notabel boecxken van cokeryen (Netherlands, 1510). (Medieval Cookery, 2015)



Juniper (*Juniperous communis*)

Plant: From the Cupressaceae family of evergreen ornamental and timber shrubs and trees.

Description: Flavor is pungent, savory, spicy and of a pine scent and can be used with all sorts of meats, game, and in my particular use, curing of hams.

Fun Fact: Not only were Juniper berries mixed with black peppercorns by Romans, but were burned in the Middle Ages to clear the air of pestilence. (Norman, 2002)

The fruit of the berries can be used dried or fresh, and when pressed release more of the aroma and flavor. Juniper berries take 2-3 years to ripen, starting off green and turning blue purple when ripe, then black when dried. Juniper berries are very prevalent in Scandinavian cooking, but used all through out Europe in processing and cooking game meats.



Allspice:

Plant: Grows on an evergreen tree belonging to the Myrtle family.

Description: “Mother Nature’s spice mix in a single berry” with the mixture of flavors of cloves, cinnamon, and nutmeg. (Lawson, 2008)

Fun Fact: Christopher Columbus happened upon the spice in Jamaica and mistook it for pepper, thereby erroneously naming it pimento (Spanish word for pepper is pimena).

The berry is picked prior to ripening and packed in bags, allowing the berry to “sweat”, which releases the spice’s flavor. The berries are then dried. It is also used in pickling and preserving meats and fish.



Mustard: Black/Brown (*Brassica Nigra*), and Yellow/White (*Sinapis Alba*)

Plant: Each variation of mustard seed come from different plants, however all belonging to the cabbage and broccoli family.

Description: Yellow is the mildest and largest of all mustard seeds, while brown and black seeds are extremely hot. Black mustard seeds are harder to cultivate, so brown mustards seeds are often used instead.

Fun Fact: Romans used mustard much like we use pepper today. After being introduced to it by the Romans, England quickly became connoisseurs of the spice and fine-tuning many different variations. (Lawson, 2008)

Seeds do not have any flavor until activated by cold water (or other liquids such as vinegar) due to a special enzyme in their make up. They absorb the liquid, making it more possible to grind. Incredibly easy to make your own mustards (see me for additional details). Can be used straight or as a base for adding other ingredients such as honey and wines to make different variations. The seeds are also used in pickling and preserving.

Harvested by cutting stems when not fully ripe to avoid pods bursting open and spilling the contents. The stems are then dried and threshed. (Norman, 2002)



Caraway (*Carum carvi*)

Plant: From the Apiaceae plant family, which is in good company with the parsley, carrot, celery, dill, cumin, coriander, fennel, and anise. Many are poisonous including poison hemlock. (Woodward, 2003)

Description: Pungent aroma that is warm and bittersweet, sharply spicy and a hint of anise.

Fun Fact: Although commonly known as Caraway seed, not actually seeds, but small ripe fruit of a caraway plant.

Romans used caraway for vegetables and fishes, and in medieval kitchens it was used to flavor soups and bean or cabbage dishes. Used on breads, cheeses, pork, apples, cabbage, pickling, and as a general spice.

Found in period recipe books such as Ein Buch von guter spise (Germany, 1345), Le Menagier de Paris (France, 1393), and A Book of Cookrye (England 1591).

**The Commodity Purchasing Power of Wages in 15th Century
England London**

**Purchasing Power of a London Craftmans Daily Wage in 1438-
1439 for Spices (at 8 pence a day)**

Spices	Price per Unit (lbs)	Number of Days Wage for each Unit
Pepper	18.028	2.25
Ginger	12.000	1.50
Cinnamon	24.151	3.02
Cloves	35.556	4.44
Saffron	182.857	22.86
Sugar	16.000	2.00
Salt	.50 pints	0.06

Compared to other commodities

Food and Fuel	Price per Unit	Number of Days Wage for each Unit
Milk	1 Gallon	0.13
Butter	1 Pint	0.13
Coal	.748 bushel	0.09
Penny Ale (Beer)	.748 gallon	0.09
Eggs	.157 eggs	0.02
Chickens	5 chickens	0.63
Tallow Candles	1.333 candles	0.17

Per chart from John Munroe Professor Emeritus of Economics in his 1988 lecture
"Oriental Spices and Their Costs in Medieval Cuisine: Luxuries or Necessities?"

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Additional links:

<http://www.oldcook.com/en/medieval-spices>

<http://www.medievalcookery.com/spices.html>

http://yalepress.yale.edu/yupbooks/excerpts/freedman_out.pdf

http://public.wsu.edu/~delahoyd/medieval/medieval_food.html