Mustard (condiment)

Mustard is a condiment made from the seeds of a mustard plant (white or yellow mustard, *Sinapis hirta*; brown or Indian mustard, *Brassica juncea*; or black mustard, *B. nigra*). The whole, ground, cracked, or bruised mustard seeds are mixed with water, salt, lemon juice, or other liquids, and sometimes other flavorings and spices, to create a paste or sauce ranging in color from bright yellow to dark brown.

Commonly paired with meats and cheeses, mustard is a popular addition to sandwiches, salads, hamburgers, and hot dogs. It is also used as an ingredient in many dressings, glazes, sauces, soups, and marinades; as a cream or a seed, mustard is used in the cuisine of India, the Mediterranean, northern and southeastern Europe, Asia, the Americas, and Africa,^[1] making it one of the most popular and widely used spices and condiments in the world.



Mustard seeds (top-left) may be ground (top-right) to make different kinds of mustard. The other four mustards pictured are a simple table mustard with turmeric coloring (center left), a Bavarian sweet mustard (center-right), a Dijon mustard (lower-left), and a coarse French mustard made mainly from black mustard seeds (lower-right).

Etymology

The English word "mustard" derives from the Anglo-Norman *mustarde* and Old

French *mostarde*. The first element is ultimately from Latin *mustum*, ("must", young wine) – the condiment was originally prepared by making the ground seeds into a paste with must. The second element comes also from Latin *ardens*, (hot, flaming). It is first attested in English in the late 13th century, though it is found as a surname a century earlier.

History

Rashi says that Abraham served calf tongue with mustard to the angels who visited him.[2]

The Romans were probably the first to experiment with the preparation of mustard as a condiment. They mixed unfermented grape juice, known as "must", with ground mustard seeds (called *sinapis*) to make "burning must", *mustum ardens* — hence "must ard".^[3] A recipe for mustard appears in *Apicius* (also called *De re coquinaria*), the anonymously compiled Roman cookbook from the late 4th or early 5th century; the recipe calls for a mixture of ground mustard, pepper, caraway, lovage, grilled coriander seeds, dill, celery, thyme, oregano, onion, honey, vinegar, fish sauce, and oil, and was intended as a glaze for spit-roasted boar.^[4]

The Romans likely exported mustard seed to Gaul, and, by the 10th century, monks of Saint-Germain-des-Prés in Paris absorbed the mustard-making knowledge of Romans and began their own production.^[5] The first appearance of mustard makers on the royal registers in Paris dates back to 1292.^[6] Dijon, France, became a recognized center for mustard making by the 13th century.^[7] The popularity of mustard in Dijon is evidenced by written accounts of

guests consuming 70 gallons of mustard creme in a single sitting at a gala held by the Duke of Burgundy in 1336. In 1777, one of the most famous Dijon mustard makers, Grey-Poupon, was established as a partnership between Maurice Grey, a mustard maker with a unique recipe containing white wine, and Auguste Poupon, his financial backer.^[8] Their success was aided by the introduction of the first automatic mustard-making machine. In 1937, Dijon mustard was granted an *Appellation d'origine contrôlée*. Due to its long tradition of mustard making, Dijon is regarded as the mustard capital of the world.

The early use of mustard as a condiment in England is attested from the year 1390 in the book *The Forme of Cury* which was written by King Richard II's master cooks. It was prepared in the form of mustard balls — coarse-ground mustard seed combined with flour and cinnamon, moistened, rolled into balls, and dried — which were easily stored and combined with vinegar or wine to make mustard paste as needed.^[9] The town of Tewkesbury was well known for its high-quality mustard balls, originally made with ground mustard mixed with horseradish and dried for storage,^[10] which were then exported to London and other parts of the country, and are even mentioned in William Shakespeare's play *King Henry the Fourth, Part II*.^[11]

The use of mustard as a hot dog condiment was first said to be seen in the US at the 1904 St. Louis World's Fair, when the bright-yellow French's mustard was introduced by the R.T. French Company.^[12]

Culinary uses

Nutritional value per 100 g (3.5 oz)	
Energy	276 kJ (66 kcal)
Carbohydrates	8 g
Sugars	3 g
Dietary fiber	3 g
Fat	3 g
Protein	4 g
Trace metals	
Magnesium	(14%) 49 mg
Sodium	(75%) 1120 mg
 Units μg = micrograms • mg = milligrams IU = International units 	
Percentages are roughly approximated using US recommendations for adults. Source: USDA Nutrient Database ^[13]	

Mustard, yellow

Mustard is most often used at the table as a condiment on cold meats. It is also used as an ingredient in mayonnaise, vinaigrette, marinades, and barbecue sauce. Mustard is also a popular accompaniment to hot dogs, pretzels, and bratwurst. In the Netherlands and northern Belgium it is commonly used to make mustard soup; which includes mustard, cream, parsley, garlic and pieces of salted bacon. Mustard as an emulsifier can stabilize a mixture of two or

more immiscible liquids, such as oil and water. Added to Hollandaise sauce, mustard can inhibit curdling.^[14]

Dry mustard is used in food preparation, and can be mixed with water to use as a condiment. In its dry form, powdered mustard lacks potency; the addition of water releases the pungent compounds. The pungency of mustard is always reduced by heating; if added to a dish during cooking, it gives less pungency than if added afterwards.

Nutritional value

The amounts of various nutrients in mustard seed are to be found in the USDA National Nutrient Database. As a condiment, mustard averages approximately 5 calories per teaspoon. Some of the many vitamins and nutrients found in mustard seeds are selenium and omega 3 fatty acid.^[15]

Preparation

The many varieties of prepared mustards have a wide range of strengths and flavors, depending on the variety of mustard seed and the preparation method. The basic taste and "heat" of the mustard is determined largely by seed type, preparation and ingredients. Preparations from the white mustard plant (*Sinapis alba*) have a less pungent flavor than preparations of black mustard (*Brassica nigra*) or brown Indian mustard (*Brassica juncea*). The temperature of the water and concentration of acids such as vinegar also determine the strength of a prepared mustard; hotter liquids and stronger acids denature the enzymes that make the strength-producing compounds. Thus, "hot" mustard is made with cold water, whereas using hot water produces a milder condiment, all else being equal.^[16]

Mustard oil can be extracted from the chaff and meal of the seed.

Flavors

The mustard plant ingredient itself has a sharp, hot, pungent flavor.

Mixing ground mustard seeds with water causes a chemical reaction between two compounds in the seed: the enzyme myrosinase and various glucosinolates such as sinigrin, myrosin, and sinalbin. The myrosinase enzyme turns the glucosinolates into various isothiocyanate compounds known generally as mustard oil. The concentrations of different glucosinolates in mustard plant varieties, and the different isothiocyanates that are produced, make different flavors and intensities.

- allyl isothiocyanate and 4-hydroxybenzyl isothiocyanate are responsible for the sharp hot pungent sensation in mustards and in horseradish, wasabi, and garlic. This is because it stimulates the heat and acidity sensing TRPV ion channel TRPV1 on nociceptors (pain sensing nerve cells) in the mouth and nasal passages. The heat of prepared mustard can dissipate with time. This is due to gradual chemical break-up of 4-hydroxybenzyl isothiocyanate.
- Sulforaphane, Phenethyl isothiocyanate, Benzyl isothiocyanate create milder and less pungent intensities and flavors as when found in broccoli, brussels sprouts, water cress, and cabbages.
- The sulfoxide unit in sulforaphane is structurally similar to a thiol which yields onion or garlic-like odors.

Prepared mustard condiment may also have ingredients giving salt, sour (vinegar), and sweet flavors. Turmeric is often added to commercially-prepared mustards, mainly to give them a yellow color.

Storage and shelf life

Prepared mustard is sold at retail in glass jars, plastic bottles, or metal squeeze tubes. Because of its antibacterial properties, mustard does not require refrigeration for safety; it will not grow mold, mildew, or harmful bacteria.^[17]

When whole mustard seeds are wetted and crushed, an enzyme is activated that releases pungent sulphurous compounds; but they quickly evaporate. An acidic liquid, such as wine or vinegar, produces a longer-lasting paste.^[18] However, even then prepared mustard loses its pungency over time; the loss can be slowed by keeping a sealed container (opaque, or in the dark) in a cool place, or refrigerator.^[19] Mustard can last indefinitely without becoming inedible or harmful, though it may dry out, lose flavor, or brown from oxidation. Mixing in a small amount of wine or vinegar may improve dried-out mustard. Some types of prepared mustard stored for a long time may separate, which can be corrected by stirring or shaking. If stored unrefrigerated for a long time, mustard can acquire a bitter taste.

Varieties

Locations renowned for their mustard include Dijon (medium-strength) and Meaux in France; Norwich (very hot) and Tewkesbury, famed for its variety, in the United Kingdom; and Düsseldorf (hot) and Bavaria in Germany. They vary in the subsidiary spices and in the preparation of the mustard seeds. The husks may be ground with the seeds, or winnowed away after the initial crushing; "whole-grain mustard" retains some unground or partially ground mustard seeds. Bavarian "sweet mustard" contains very little acid, substituting copious amounts of sugar for preservation. Sometimes, prepared mustard is simmered to moderate its bite; sometimes, it is aged. Irish mustard is a whole-grain type blended with whiskey, stout (commonly Guinness), and/or honey.



Home preparation

Hot table mustard may very easily be home-prepared by mixing powdered mustard (ground mustard seed, turmeric and wheat flour) to the desired consistency with water or an acidic liquid such as wine, vinegar, or beer, and leaving to stand for ten minutes.^[20] It is usually prepared immediately before a meal; mustard prepared with water, in particular, is more pungent but deteriorates rapidly.

American Yellow mustard

The most commonly used mustard in the United States and Canada is sold as "American yellow mustard" (although most prepared mustards are yellow). A very mild prepared mustard colored bright-yellow by turmeric, it was introduced in 1904 by George J. French as "cream salad mustard". Yellow mustard is regularly added to hot dogs, sandwiches, pretzels and hamburgers. It is also an ingredient of many potato salads, barbecue sauces, and salad dressings.

Spicy brown/deli-style mustard

Spicy brown or "deli style" mustard is also commonly used in the United States. The seeds are coarsely ground, giving it a speckled brownish-yellow appearance. In general, it is spicier than yellow mustard. A variety popular in Louisiana is called Creole mustard.



A bottle of American yellow mustard.

Beer mustard

Beer mustard, which substitutes beer for vinegar, allegedly originated in the 20th century somewhere in the United States Midwest and has remained a popular local condiment.^[21]

Dijon mustard

Dijon mustard originated in 1856, when Jean Naigeon of Dijon substituted verjuice, the acidic "green" juice of unripe grapes, for vinegar in the traditional mustard recipe. Most mustards from Dijon today contain white wine rather than verjuice.

"Dijon mustard" is not a protected food name; while there remain mustard factories in Dijon and adjoining towns, most mustard described as "Dijon" is manufactured elsewhere. Even that produced in France is made almost exclusively from Canadian mustard seed.

Whole-grain mustard

In whole-grain mustard, also known as *granary mustard*, the seeds are mixed whole with other ingredients. Different flavors and strengths can be achieved through different blends of mustard seed species.

Honey mustard

Honey mustard is a blend of mustard and honey, typically 1:1.^[22] It is commonly used both on sandwiches, and as a dip for finger foods such as chicken strips. It can also be combined with vinegar and/or olive oil to make a salad dressing.

Combinations of English mustard with honey or Demerara sugar are used in British cuisine to coat grilled lamb cutlets or pork chops.

Fruit mustards

Fruit and mustard have been combined since the Lombard creation of *mostarda di frutta* in the 14th century.^[] Large chunks of fruit preserved in a sweet, hot mustard syrup were served with meat and game, and were said to be a favorite of the Dukes of Milan. Traditional variations of fruit mustards include apple mustard (traditional in Mantua and very hot), quince mostarda (or mostarda vicentina, mild and with a jam-like appearance) and cherry mustard. In various areas of Italy, the term *mostarda* refers to sweet condiments made with fruit, vegetables and *mosto*, grape juice that gets simmered until syrupy.

Hot mustard

The term *hot mustard* is used for mustards prepared to bring out the natural piquancy of the mustard seeds. This is enhanced by using pungent black or brown mustard seeds rather than the white mustard seeds used to make mild mustards.

• Russian mustard is a sharp, strong hot mustard, prepared from an Indian mustard seed and high acid (~6-9%) distilled white vinegar, with salt, sugar, and vegetable oil. Mustard flour is diluted with hot water in Russia, resulting in more efficient allyl isothiocyanate production and thus a sharper taste. Indian mustard has less heat-sensitive glucosinolates, so hot water does not reduce the pungency.

Spirited mustards

Spirited mustards are made with alcoholic spirits. Variations include Arran mustards with whisky, brandied peach mustard, cognac mustard, Irish "pub" mustard with whiskey, and Jack Daniel's mustard.Wikipedia:Citation needed

Sweet mustard (Bavaria)

Sweet mustard is made from kibbled mustard seed and sweetened with sugar, apple sauce or honey. It is typically served with weißwurst or leberkäse. There are regional differences within Bavaria toward the combination of sweet mustard and leberkäse. Other types of sweet mustards are known in Austria and Switzerland.

Notable mustard manufacturers

Finland

Turun sinappi

France

- Amora
- Grey Poupon
- Maille

Germany

- Born Feinkost
- Düsseldorfer Löwensenf
- Händlmaier

Switzerland

• Thomy

United Kingdom

Colman's

United States

- French's
- Grey Poupon
- Gulden's
- Heinz

- · Plochman's
- Stadium Mustard

Allergies

A strong mustard can by its nature make the eyes water, and sting the tongue, palate, and throat. Home-made mustards may be hotter and more intensely flavored than most commercial preparations.^[23]

Any part of the mustard plant can also, rarely, cause allergic reactions in some people, including anaphylaxis. Since 2005 pre-packed food in the European Union must show on its label if it contains mustard.^[24]

References

- [1] Hazen, p. 13
- [2] http://www.chabad.org/library/bible_cdo/aid/8213#v=7&showrashi=true
- [3] Hazen, p. 6
- [4] Antol, p. 16.
- [5] Hazen, p. 10
- [6] Antol, p. 19
- [7] Hazen, p. 10.
- [8] Antol, p. 21.
- [9] Antol, pp. 21-22.
- [10] http://www.bbc.co.uk/food/0/19370526
- [11] Antol, p. 22.
- [12] Antol, p. 23.
- [13] http://ndb.nal.usda.gov/ndb/search/list
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- [15] Mustard seeds (http://www.whfoods.com/genpage.php?tname=foodspice&dbid=106). WHFoods. Retrieved on 2011-05-27.
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- Sawyer, Helene. Gourmet Mustards: How to Make and Cook with Them. Culinary Arts Ltd., 1990 ISBN 0-914667-15-7

External links

Recipes

- Mustard (seed) recipes (http://homecooking.about.com/library/archive/blspice7.htm)
- Recipe for honey mustard dressing (http://www.recipesource.com/side-dishes/dressings/02/rec0290.html)
- Recipe for Caramelised Onion and Mustard Relish (http://www.keensmustard.com.au/recipes/ keens-caramelised-onion-and-mustard-relish)

History

• The Golden History of Dijon Mustard (http://perso.wanadoo.fr/wiencis/mustard_story.html)

External links

- Common Varieties of Mustard (http://homecooking.about.com/od/howtocookwithcondiments/a/ mustardvariety.htm)
- What Makes Mustard So Mustardy? (http://www.straightdope.com/mailbag/mmustard.html) (from The Straight Dope)
- Polish mustard jar, used as a glass (Wikipedia PL)

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