

Name: _____
Block: _____

Rice Notes

A cook needs to know two things about rice. The first is whether or not the bran and germ are still attached. If so, it is brown rice (although in some instances such as Thai black rice, the rice is another colour). The advantages of brown rice are, it is much higher in fibre content and the presence of vitamins and minerals that are lost in white rice. The disadvantage is its longer cooking time and its perishability: brown rice must be refrigerated and used within a month. White rice offers two advantages: year long shelf life and relatively quick cooking.

If rice is parboiled before the bran is removed, it retains more B vitamins. The resulting white rice is known as "converted" but takes a little more liquid and a longer cooking time than other white rice. If rice is cooked and dried again before packaged again, it becomes "instant" a less flavourful product with softer kernels but a convenience nevertheless especially with brown rice.

The second thing is the length of the grain. A kernel of long grain rice (brown or white) is three to five times longer than it is wide; the cooked kernels are fluffy and separate easily. Medium and short grain rice kernels are closer to oval in shape. Short grain rice is often called "glutinous" although it has no gluten or sticky rice in Asian cuisines that favor it in dishes ranging from sushi to desserts. Medium and short grain rice, if steamed or simmered the same way as long grain rice, need about 50 ml to 125 ml less of water per 250 ml of rice, thus a few minutes less cooking time.

Numerous varieties of rice are called "aromatic" because they have a pronounced nutty fragrance due to a higher concentration of a natural compound found in all rice. The most famous of these is basmati, a long-grain rice, white or brown, grown in India, Pakistan and also the United States; it give Indian pilafs their distinctive, and irresistible, fluffy texture and aroma. Jasmine is a long-grain white aromatic originally from Thailand and now grown in the United States as well; it cooks moist and tender but not fluffy, like a medium-grain rice, and has a lovely subtle perfume. Other popular American-grown aromatic rices are Texmati, white and brown, a type of basmati from Texas; Wehani, a long-grain brown variety from California; and Louisiana Pecan, a white rice named for its aroma.

The best-known rices of Spain and Italy are medium-grain and much valued for their soft cooked texture. These are used for paella and risotto. The classic Spanish rice of paella comes from the province of Valencia. The Italian rices, grown in the Piedmont and Lombardy regions, include Arborio, Vialone Nano and Carnaroli. American medium-grain rice can be substituted for these and can also be used to prepare Japanese style rice.

Red and black rice have joined the basic white and brown on the store shelves. These come in various grain sizes and may be aromatic or not. What the colour does indicate, usually, is that the bran has been left on and the rice needs longer cooking. Thai black rice turns purplish and sticky when cooked it is deeply flavourful and is often cooked with coconut milk to make pudding.

Electric rice cookers are ingenious devices that make preparing white or brown rice a snap. Most rice cookers have a large cooking chamber (often lined with non stick coating). That rests above an electric heating element. Most also come with a perforated insert that fits near the bottom of the cooking pot, transforming the rice cooker into a steamer for vegetables, fish and other foods. Follow the manufacturer's instructions, but keep in mind that some rice cookers are imported from Asia come with directions that assume the rice has been soaked or rinsed. When cooking dry – ~~not rinsed or soaked~~ – rice, in a rice cooker, between 50 ml and 125 ml less water per cup (250 ml) than you would in stovetop cooking.

Microwave 250 ml long grain rice with 425 ml to 500 ml water and 1 ml to 2 ml of salt in a covered casserole dish on high for 5 minutes, then on medium for 15 minutes. Let stand covered for 5 minutes.

Microwave 250 ml long-grain brown rice with 625 ml water (500 ml for short grained) and 1 ml to 2 ml salt in a covered casserole on high for 5 minutes, then on medium low for 40-45 minutes. With the shorter time for short grain. Let stand, covered for 5 minutes.

Food Poisoning and Rice – Demystified!

The food poisoning bacteria *Bacillus cereus* is naturally found in cereals such as rice. Washing rice will not help avoid the potential problem as the Bacillus bacteria are literally ingrained in the rice and so cannot be washed away.

How is food poisoning caused?

When rice is cooked, the Bacillus bacteria survive by forming protective spores. When the temperature conditions are again favourable (for example rice is left in the 'danger zone' i.e. between 5-63°C for a prolonged period of time), the spores germinate and Bacillus bacteria are released into the food, and grow and multiply.

Whilst Bacillus bacteria multiply in the food, they excrete a waste product into the food which is poisonous to us (called an exotoxin). This toxin is heat stable, and therefore even if the rice is thoroughly reheated before consumption, it will still be present in the food. The poison affects the upper gastrointestinal tract and the consequences of eating food containing the toxin are that we shall experience abdominal cramps and vomiting within 1 to 5 hours after eating, with the symptoms lasting 6 to 24 hours.

This is not the only danger with rice – it can have a 'double whammy' effect in store: If the Bacillus bacteria are eaten whole i.e. the food is not piping hot before consumption, the bacteria are broken down in our intestines where they release another type of poison (called an endotoxin). The effects of this toxin take around 8-12 hours after eating to take effect, and the symptoms are mainly stomach pain and diarrhoea. Symptoms last 1-2 days.

The most common problem with hot rice is to suffer the vomiting caused by the exotoxin, as it is not destroyed by heat (including flash frying of fried rice). However with rice served cold (for example from a salad bar) which has been subject to temperature abuse, or rice which has not been reheated thoroughly and left in the danger zone you can get the full effects of *Bacillus cereus* – vomiting then diarrhoea (i.e. the effects of both toxins).