

JOEL FUHRMAN, MD

Whole grains, rice and arsenic

A high-nutrient (Nutritarian) diet is largely focused on vegetables, with all of their health-promoting vitamins, minerals, and phytochemicals.

Other foods used liberally include beans, fruits, seeds and nuts, and whole grains, including whole grain rice. As the most widely consumed grain worldwide, rice serves as a staple food for a large part of the world.

However, not all rice is equally healthful. Rice varies by type and origin, which contribute to both its nutritional content and potential level of arsenic contamination.

A whole grain contains a complete "kernel" that consists of three edible parts; the bran, endosperm and germ. Whole-grain rice is classified by the color of its bran and there are four groups: brown, black, purple, and red.

Wild rice is similar, but technically not in the rice family.

The most commonly grown commercial rice is brown rice. When brown rice has its bran and germ removed it is called white rice. This processing allows white rice to have a longer shelf life and shorter cooking time, but the healthful fiber in the bran and beneficial nutrients in the germ are lost.

More colorful pigmented whole grain rice varieties are becoming increasingly popular and red, black, and purple rice exhibit higher antioxidant activity as compared to brown

rice. Overall, black rice, which is rich in anthocyanins, showed the highest antioxidant levels of all rice varieties, followed by red and purple, then brown, and lastly white rice.

Arsenic is a toxic element that is naturally present in the earth's crust. As such, it is found in the soil, water and some foods. In addition, some areas have increased concentrations of arsenic as a result of industrial pollution, the use of arsenic-based drugs in poultry production, and arsenic-containing pesticides and fertilizers.

All plants can absorb some arsenic, but rice can absorb up to 10 times as much as other grains. This is due to how the rice (including wild rice) is grown, in flooded paddy fields.

The soil in the fields, when covered with water, create conditions that allow arsenic to be converted to more readily absorbable forms.

Arsenic accumulates most in the outer layer of rice, which is the reason that whole grain rice, with its bran intact, can have up to 80 percent more arsenic than white rice.

Arsenic is well recognized as a human carcinogen and chronic exposure (via inhalation or from high-arsenic drinking water) is a known cause of skin, lung and bladder cancer and is also associated with other cancers such as kidney, liver, and prostate.

Studies have also demon-

strated associations with non-cancerous conditions, such as diabetes, heart and lung diseases, immunological effects, and impaired cognitive function.

Although whole grain forms of rice have a superior nutritional profile compared to white rice, they also have a higher risk of arsenic contamination. When you do eat whole grain rice, these are some ways to minimize arsenic exposure:

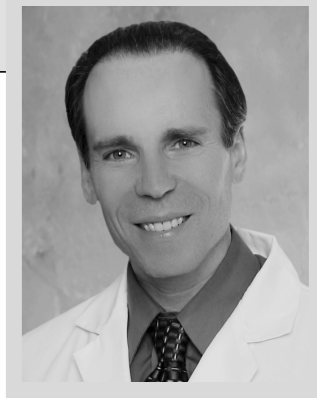
- Select whole grain rice grown in areas with low arsenic levels. Consumer Reports found that brown basmati rice from California, India or Pakistan has about a third of the inorganic arsenic as compared to brown rice from other regions and would be the best choice.

Rice grown in Arkansas, Texas, Louisiana and most other U.S. locations had the highest inorganic arsenic levels, so would be better to avoid or minimize.

Check companies' websites. Some rice growers conduct independent testing for arsenic levels in their rice and post the results. There are also companies that harvest wild-growing rice from northern Wisconsin and Canada without the use of commercial fertilizers.

Keep in mind that organically-farmed rice may mean there is less pesticide use, but does not necessarily mean there are lower arsenic levels

- Rinse rice before cooking



to reduce arsenic content. Rinse rice until the water becomes clear

- Cook rice in a higher water volume. Research has shown that the amount of arsenic in rice can be reduced by approximately 40 percent if the rice is boiled in a large volume of water. Cook rice using a 1-to-6 cup rice-to-water ratio, drain and discard the excess water

- Eat a variety of starches—not just rice. On a Nutritarian diet, the most emphasized starch sources are beans, lentils and other legumes.

There are also healthful starchy vegetables such as butternut squash, winter squash, carrots, beets, parsnips, rutabaga and turnips, and a variety of whole grains such as amaranth, barley, buckwheat, bulgur, farro, millet and quinoa.

If you utilize a variety of these foods, arsenic exposure from the occasional serving of rice will not be a concern.

However, as a result of this arsenic issue, brown rice should not be eaten often and regularly.

Dr. Fuhrman is a New York Times best-selling author and board certified family physician specializing in lifestyle and nutritional medicine.

Ladies of Elks announce 2015 scholarship winners

Ladies of Elks, Florence Lodge No. 1858, recently announced the winners of its 2015 scholarship awards.

Fourteen graduating seniors from three local area high schools, Siuslaw, Mapleton and Reedsport submitted applications for judging on the basis of scholastic achievement, leadership, motivation, extracurricular service to their communities (school and local) and financial need.


Scholarships of \$2,000 each

were awarded to Jonathan Griffes of Siuslaw High School and Tucker Ford of Mapleton High School.

Zachary Burkhart of Siuslaw High School was awarded a \$1,000 Scholarship.

Former scholarship winners, Cody Burkhart of Pacific University and Lara Zetzsche of Willamette University, have been awarded \$1,000 each to assist them in their continuing education endeavors.


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City Lights, Siuslaw News to host Earth Day movie

In celebration of Earth Day, April 22, City Lights Cinemas and the Siuslaw News will be partnering together to present "Planetary" at noon and 6:30 p.m.

Directed by Guy Reid, "Planetary" presents a stunning

visual portrait of our Earth, taking viewers on a journey across continents: from the African savannah to the Himalayas, and from the heart of Tokyo to the view of our fragile planet from orbit.

Through intimate interviews

with a diversity of people, from NASA astronauts and environmentalists to philosophers and Tibetan lamas, the film explores our shared future.

Tickets are \$9, or \$8 for seniors, \$7.50 for students, \$7 for matinees, or \$6.50 for children.

\$9 regular or \$7.50 matinee tickets can also be purchased at the Siuslaw News.

Bring your ticket stub to the Florence Green Fair on May 2 for free admission.

City Lights Cinemas is at 1930 Highway 101.

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