



Black Rice *A Natural Source of Bioavailable Iron and Antioxidants* Concentrate

Botanical Extract Ingredients

Draco Natural Products is the world leader in the raw material manufacture and supply of **Full Spectrum Standardized Herbal Extracts™**, standardized to recognized markers and giving you the full range of plant constituents in the balanced proportions that nature intended.

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Iron deficiency and iron deficiency anemia are prevalent among women of childbearing age as a result of many causes. In China, this phenomenon has reached epidemic proportions. 47% of all Chinese women have this serious health condition. The causes include child birth, heavy menstrual cycles, heavy bleeding from some forms of contraception (IUD), intestinal parasites, ulcers, a high intake of coffee or tea, and a diet lacking in animal proteins, such as beef and other iron rich foods. Iron deficiency, apart from anemia, also results in severe fatigue, listlessness, poor concentration and susceptibility to infections. True iron deficiency anemia cannot be self diagnosed. It must be determined by a medical exam. Once a positive result has been determined, Iron Replacement Therapy (IRT) should be initiated. The major problem with IRT though, is that most forms of iron prescribed are highly irritating and are a source of dangerous free radicals. An excellent solution to this dilemma is the use of stable, organic iron derived from the Black Rice cultivar of *Oryza sativa*, which is also rich in supportive nutrients, protective antioxidants, and anthocyanidins.

An explanation of why the most common types of iron supplements produce free radicals will help one understand the different biological forms of iron, and why choosing a safer and more ef-

fective one will ensure greater health in the long-term. Most iron supplements are in the form of chemical iron salts. Chemically, these are based on the well-absorbed ferrous ion that has been matched with an ionic carrying partner such as sulfate, gluconate, or citrate. Ferrous ions have an ionic charge of +2, which means they have one extra electron. This extra electron seeks to react with any nearby molecule or ion and produce a free radical known as the hydroxyl species. This is considered to be one of the most dangerous and toxic of the free radicals, capable of damaging cell membranes, and even DNA.

The hydroxyl species of free radical undoubtedly accounts for the severe gastrointestinal effects that people experience while on iron replacement therapy. Some of the apparent side effects are constipation or diarrhea, stomach pain, green or black colored stools, and nausea and/or vomiting. Some of the less obvious and more insidious adverse effects that may be possible, because the ferrous form of iron is a prolific generator of the hydroxyl free radical, are DNA damage, cardiovascular damage, aging, and increased risk of cancer. Ferrous iron is the reagent of choice in research studies for creating free radicals *in vitro*. Because there has been such an important ongoing need for a healthy form of iron supplementation, nutritional research ef-



Black Rice - *continued*

forts have been undertaken, yielding an amazingly healthy and beneficial source of iron, derived from black rice.

The form of iron in black rice is naturally chelated to organic compounds, which is the same as the form of iron naturally occurring in most foods, and is one of the safest iron sources available. In addition, black rice organic iron is rich in a wide breadth of naturally occurring antioxidants, such as proanthocyanidins, anthocyanidins, flavonoids, isoflavones, tocotrienols, phytosterols and phytate. These phytochemicals protect arteries from damage, decrease cancer risk, and reduce the overall free radical burden in the body. Isoflavones are thought to possibly help promote stronger bone density, decreasing the risk of osteoporosis and the resulting hip fractures in women; decrease the risk of breast cancer; and reduce symptoms of menopause, such as hot flashes. In addition, these phytochemicals protect skin from UV and chemical damage, helping to slow down the aging process. Proanthocyanidins increase the strength of vascular tissue and help to prevent varicose veins common in women, both after child birth and as one gets older.

The numerous health and nutritional properties of Black Rice have very important value. Black Rice has been given to people traditionally after surgery to promote healing of the surgical wound. Its nutrient make-up as a whole helps to increase red blood cell formation. With over a dozen minerals and at least 17 different amino acids, Black Rice has two and a half times more protein than regular rice. This would probably explain why it has been found to be so beneficial in nourishing the yin (body tissue) of older people and those who have weakness.

Black Rice has been shown to act as a health tonic for the stomach, liver, and eyes. The positive effect on the eyes may result from its high levels of anthocyanidins, much the same as with bilberry. The dark purple color of Black Rice is from the anthocyanidins and has value for use as a food-coloring agent. Anthocyanidins are known to promoting healthy circulation, and strengthen blood vessel walls, helping to prevent bruising.

In Traditional Chinese Medicine, it is thought to nourish the kidney yin, strengthen the spleen system (blood forming function of the body) and warm the liver system (relates to the blood supply and emotional function of the body). According to TCM theory, Black Rice promotes blood circulation and improves visual acuity (brightens the eyes).

Black Rice also contains tocotrienols, relatives of vitamin E known to be more potent antioxidants than vitamin E. Other valuable constituents are ferulic acid, gamma oryzanol, and phytosterols. These compounds help support healthy immune function, and decrease inflammation and cholesterol levels, which are all very important for healthy circulation and longevity.

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