

# Bilberry

## + Grapeskin Polyphenols



### Promotes Healthy Eye Function

- Provides Support for Night Vision by Nourishing the Visual Purple Component of the Retina
- Strengthens the Capillaries and Helps to Normalize Capillary Permeability
- Acts As a Powerful Antioxidant and Free Radical Scavenger

capillary leakage in subjects who are prone to this, such as individuals with varicose veins. Hence, one of the same mechanisms which safeguards the health of the capillaries which feed the eyes also safeguards the health of the circulatory system more generally. These plant compounds stabilize the membranes of the connective tissues which surround the blood vessels. Some research further suggests that anthocyanosides may increase the rate of biosynthesis of connective tissue ground substance.

### Additional Benefits

**Jarrow FORMULAS®** high quality bilberry extract makes available a potent source of compounds used by the body to control redness and soreness. More than twenty-five years ago, researchers first proved that bilberry anthocyanosides can significantly protect the tissues from certain types of damage. This was reported in "Studies on Vaccinium myrtillus anthocyanosides. I. Vasoprotective and anti-inflammatory [sic] activity." (*Arzneimittelforschung* 1976;26(5):829-32) A variety of types of protection are afforded by anthocyanosides. Protection against free radical attack and destructive enzymatic cleavage have already been noted. Damage is further controlled through the inhibition of the synthesis and release of compounds that induce injury to cell membranes along with the leakage of fluids into the tissues.

### Usage

Take 1 to 2 capsules of **Bilberry + Grapeskin Polyphenols** up to three times daily or as directed by your qualified health consultant.

### References

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Capillary fragility leads to easy bruising, the leakage of fluids from the capillaries and the buildup of fluids in tissues. Bilberry anthocyanosides possess strong "vitamin P" characteristics. The "P" stands for the permeability of capillaries and how flavonoids strengthen microvessels against excessive permeability. When taken as a supplement, these anthocyanosides have been shown to reduce

Next to the ocular system, the physiologic system which benefits most from bilberry extract is the circulatory system. Bilberry anthocyanosides cross-link to collagen fibers, and thereby reinforce the naturally cross-linked matrix of these fibers found in the walls of blood vessels as well as in cartilage and tendon. Anthocyanosides not only reinforce the collagen matrix, but they also inhibit enzymes, such as collagenase, which damage collagen-based tissues.

### Circulatory Protection

In laboratory trials, changing the rate of generation of free radicals. Similarly, several types of deterioration that are typical of aging eyes, such as cataracts and macular degeneration, appear to be influenced by the rate of generation of free radicals.



and retinopathy. The expected benefit is improved integrity of the collagen integral to the support structure of the capillaries.

Much of the modern research on bilberry extract has focused upon the benefits to the eyes. Bilberry anthocyanosides provide three primary benefits to these organs. First, these highly colored plant pigments nourish the retina. Night vision depends on the retina's ability to constantly regenerate visual purple (rhodopsin), and anthocyanosides serve as "building blocks" for this important substance. Tests have confirmed these benefits. When subjects with normal vision supplemented with bilberry extract, it was found that the acuity of their nighttime vision improved, as did the speed at which they adjusted to darkness and the rate at which they recovered from blinding glare. After reviewing the literature, some authors have suggested that bilberry extract provides benefits even in cases of myopia (poor distance vision, also called "nearsightedness"). These findings may reflect the importance of visual purple for visual acuity in general.



The benefits of bilberry anthocyanosides extend beyond the regeneration of visual purple. The eye depends upon a very high relative blood flow and is exposed to large amounts of oxygen. Such factors mean that the eye is extremely vulnerable to problems arising from capillary fragility and that prevention of damage by free radicals plays a major role in maintaining eye health. In Europe, bilberry extracts are widely supplemented by individuals who are known to be subject to eye capillary permeability

### Food For The Eyes

The bilberry has many historical or traditional uses based upon both the dried berries and the leaves. Used as a medicinal herb since the 16th century, modern interest in the bilberry is partly based on the fruit's use by British pilots during the Second World War. These pilots noticed that their night vision improved when they ate bilberry jam prior to night bombing raids. In the intervening years, scientists discovered that *anthocyanosides*, the bioflavonoid complex in bilberries, are potent antioxidants. Many of the traditionally suggested uses of bilberry, such as against scurvy and urinary tract complaints, no doubt reflect the antioxidant and vitamin C-sparing properties of the berry. However, the astirgent qualities of both the dried bilberry fruit and bilberry tea may also provide some benefits, and help to explain the use of these in folk medicine to soothe the gastrointestinal tract. In Europe, bilberry extracts are accepted conventionally as a normal part of nutritional health care for the eyes. To complement the bilberry extract, Jarrow FORMULAS® has added another polyphenol antioxidant, 200 mg of red grapeskin extract (from *Vitis vinifera* grapes). Grapeskin extract provides flavonoids that are similar in structure and nutritional functions to bilberry polyphenols.

### Bilberry (Vaccinium Myrtillus)