



Berries and the Color Code

One of the simplest messages berries give us is an example for choosing colors of plant foods when we are shopping. If berries aren't available, you can still put colorful foods in your basket and have those assorted colors as a guide for your day's meals.

That's right -- *why not keep fruit and vegetable shopping and meal planning simple just by choosing **5-10 different colors** for each day's meals?*

Make "5 a day" mean 5 colors a day!

From *Nature's Colorful Gifts*

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** [NOTE: for additional background and published literature, see [Wikipedia](#) links with this [color](#)] **

[Foods for the "5 a Day Way"](#)

Consider this simple relationship for healthy nutrition through food selection:

“Color = Health”

When we think of the government advisory “Eat 5-10 a Day” - usually meaning 5-10 servings of fresh fruits and vegetables - we might refine this rule by purposely choosing healthy foods according to their colors.

Yes, 5-10 foods of different colors each day.

How do colorful plants benefit us?

Color Comes From Pigment Power

Pigments are natural dyes that a plant uses to defend itself from perpetual sun exposure. Colors in a plant also promote regeneration by attracting predators to its scent and taste while discouraging pests such as bacteria, viruses and insects.

Sunshine provides the plant with light energy for **photosynthesis** - essential for plant growth, but also bathes plants in **ultraviolet radiation** that would be deadly without pigments absorbing those rays.

Whether in plants or human bodies, normal cellular metabolism constantly generates reactive oxygen species (sometimes called **free radicals**) that are unstable molecules having the potential to damage cell structures and initiate diseases - the definition of “**oxidative stress**.” Environmental factors such as pollution, tobacco, radiation, chemicals or excessive sunlight increase the production of free radicals or oxidative stress.

However, Nature has provided plants with pigments having a secondary function to counteract free radicals, thereby serving as **antioxidant** sentries always on guard to counter oxidative attack. Pigment molecules also bear other beneficial properties, such as anti-pest, anti-viral, anti-bacterial, and anti-fungal effects protecting plant health.

Why is this relevant to you and your family?

By eating colorful plants, we provide our bodies with these same pigments and gain similar protection against free radicals, invading pathogens and diseases. Scientists now acknowledge that **more than 60 human diseases** - cancer, heart and vascular disorders, diabetes, inflammation, Alzheimer's and other aging disorders, to name only a few - **evolve to some extent from oxidative stress**.

An important fact most people do not realize:

these diseases are not inevitable!

To a significant extent, they are deficiencies of dietary antioxidants

and so are preventable via wise nutrition using pigment power!

Phytochemicals

Scientists have estimated that the world of colorful plants may include up to 10,000 different **phytochemicals** (from Greek, phyton = plant). Reasonably, 8,000 of these are antioxidants, primarily in two general classes - **phenolics** and **carotenoids**.

Among plants with antioxidant phytochemicals is one group particularly rich in phenolics or carotenoids and with *great diversity of colors* – **Berries**.

Many of these wonderful gems of summer - blueberries, cranberries, blackberries, black and red raspberries, dark grapes, all bright with blues, purples, blacks or reds - have the highest measured contents of phenolics called **anthocyanins** (Greek, anthos = flower and kyanos = blue). Certain Asian berry species are intensely red, orange or yellow, correspondingly with high contents of the potent antioxidant carotenoids.

The color intensities in berries are approximately proportional to overall food antioxidant strength, emphasizing the reputation berries have as Nature's #1 antioxidant food group.



Healthful Gems

There are many health benefits gained from eating colorful foods like berries. In addition to strong antioxidant pigmentation and fiber, is significant content of more familiar nutrients like carbohydrates, vitamins, minerals, amino acids and proteins. Using colorful berries as an example, having more color-rich foods in our diets assures broad-spectrum nutrition and a stronger arsenal of phytochemical protection against onset of diseases.

This might be the most important single message we can convey to consumers today for optimal human nutrition:

Choose colors from Nature's palette to define your diet.

Paint a picture of health each day by eating 5-10 foods that are blue, purple, red, yellow, orange, and green.

Let berries be your guide.

Archives (click!)

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Dr. Paul
The Berry Doctor

Reading (*good used copies can be ordered inexpensively from Amazon.com*)

* Heber D. What Color Is Your Diet?, 2001, ReganBooks, New York.

* Joseph JA, Nadeau DA, Underwood A. The Color Code, 2002, Hyperion, New York.
