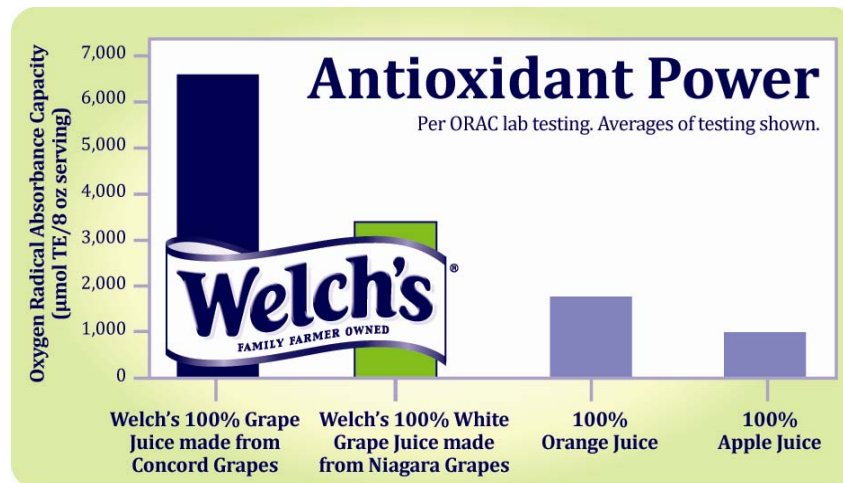




Antioxidants and Antioxidant Capacity



The role of dietary compounds in the promotion of human health continues to be an expanding area of focus for nutrition science and research. Epidemiologic data indicate that diets rich in fruits and vegetables play a role in reducing risk of certain chronic diseases. It has been hypothesized that this may be due in part to the antioxidant effects of the nutrients and phytonutrients (plant nutrients) found within these foods.

Antioxidants are compounds in foods and beverages that can help protect healthy cells from the damaging effects of oxidative stress, a condition which has been implicated in a number of chronic diseases. Vitamins C, E and A (as beta-carotene), and the mineral selenium, as well as certain phytonutrients (such as polyphenols) can act as antioxidants. Antioxidants neutralize free radicals by donating electrons, preventing them from stealing electrons from stable molecules.

Free Radicals are atoms or groups of atoms that have one or more unpaired electrons. They are a normal part of everyday life and are produced during activities like exercising or digestion. Free radicals are highly reactive, but our bodies have a natural defense system – so in small numbers, they are not a big problem. However, exposure to certain environmental factors like pollution and UV radiation can also trigger the formation of free radicals. And, when there are too many free radicals for our bodies to protect against, they can set off a damaging chain reaction, which in turn can result in oxidative stress.

ORAC (Oxygen Radical Absorbance Capacity) is a common test tube measure used to identify the antioxidant potential or power of certain foods and beverages. A higher ORAC score means more antioxidant power. Fruits and vegetables high in phytonutrients like polyphenols tend to be high in antioxidant power and thus have a high ORAC score.

