



**Maqui** is a deeply purpled berries collected from the distant Patagonia region, that stretches from Southern Chile to Antarctica, one of the cleanest place on this planet. Maqui berries has been traditionally used by the Mapuche Indian for a variety of ailments such as sore throat, diarrhea, ulcers, hemorrhoids, birth delivery, fever, tumors and other ailments. Mapuche Indian tribe is the only Indians in American Continents that are not conquered by any European Countries. According to the Spaniard, the Mapuche warrior eat very little solid food and drink a fermented beverage made from maqui berry several times a day, which may have contributed to the extraordinary strength and stamina that the warriors exhibited. Maqui berry contain the highest ORAC value of any known berry. It also contain high level of polyphenols and anthocyanins.

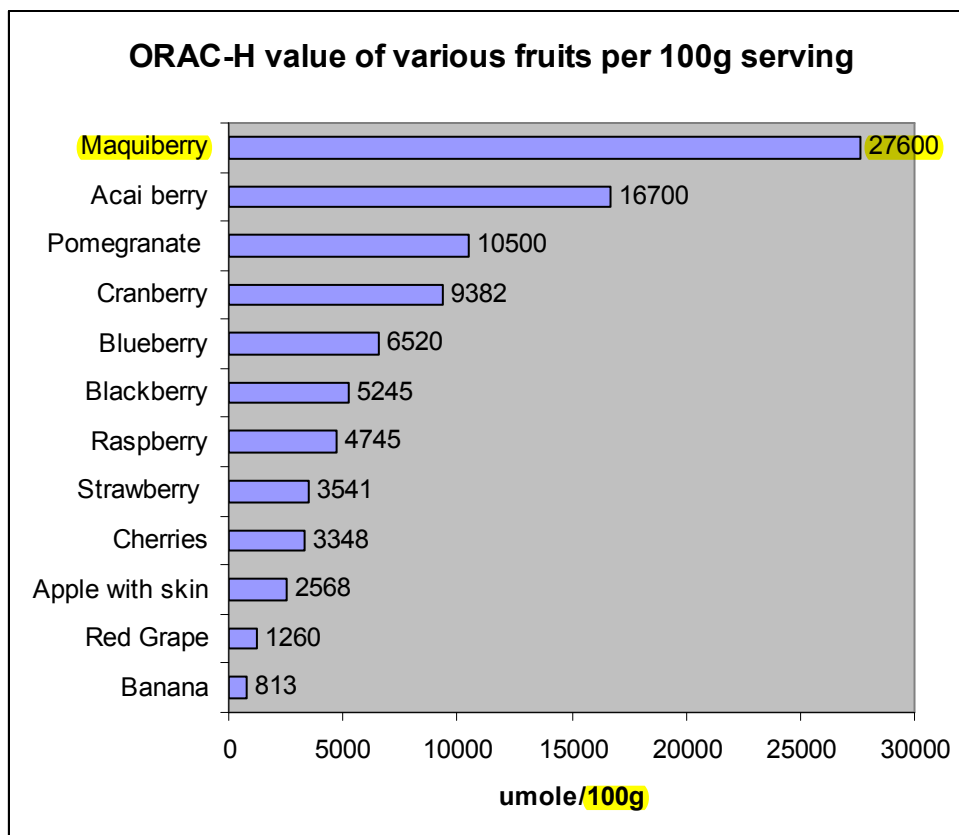
### Benefits of Maqui Berries:

- Anti-inflammatory
- Natural **COX-2 Inhibitor**
- Protect cells from oxidative stress
- Fight free radicals
- Healthy aging
- Cardiovascular Health

Our scientists in Chile is continuing the research with maqui. In vitro study has shown that maqui berry kills cancer cells, exhibits strong anti-inflammatory activity, and is a powerful natural COX-2 inhibitor.

**Antioxidants** contain an extra oxygen molecule and are able to neutralize the free radical before it does any harm. Our body produces natural antioxidants to combat oxidative stress and inflammation and the cell damage that results. However, the aging process and the various environmental and life-style stressors we face every day create more free radicals than our bodies can naturally fight off. Maqui Superberry is packed with antioxidant, especially the anthocyanins and polyphenols. It also contain the highest ORAC value among berries.

**ORAC:** Developed by food nutrition researchers at Tufts University’s USDA sponsored Human Nutrition Research Center on Aging, the ORAC test measures a food’s antioxidant ability to neutralize free radicals and potentially mitigate health imbalances. Nutritionist recommends at least 3,000 ORAC per day. Most individuals get only 1,200 ORAC units or less per day through their diet. As we all know, there are a lot of confusion in terms of ORAC no. Below is a table that represent ORAC value per 100g serving (typically 1 fruit or 1 cup) for various fruits. In terms of berries, Maqui has the highest ORAC value compare to any other fruits & berries.



	<b>DPPH</b> (% Inhibited)	<b>ORAC-H</b> (umole of TE/ml)	<b>FRAP</b> (umole of FE/ml)	<b>TEAC</b> (umole/ml)
<b>Maqui Berry Juice</b>	207.7	133	55.0	127.8
<b>Pomegranate Juice</b>	50.1	25	8.1	41.6
<b>Red Wine</b>	35.2	25.7	4.3	18.7
<b>Blueberry Juice</b>	20.6	20.6	4.2	15.0
<b>Cranberry Juice</b>	19.2	15.4	2.7	10.4
<b>Acai Juice</b>	18.3	19.5	3.8	12.8
<b>Orange Juice</b>	12.7	7.4	1.5	4.2
<b>Apple Juice</b>	11.8	4.8	1.2	3.6

## **Highest Delphinidin Anthocyanins**

Anthocyanins are produced by plants for self-protection against, sun, irradiation, diseases, and biological enemies. Anthocyanins are antioxidant flavonoids that protect many body systems and have some of the strongest physiological effects of any plant compounds. Anthocyanins were found in one study to have the **strongest antioxidizing power of 150 flavonoids**.<sup>1</sup> (Approximately 4,000 different flavonoids have been identified.). Anthocyanins in Maqui berry are truly unique as 80% of all anthocyanins in Maqui berry are delphinidin, which is the strongest among all anthocyanins compounds.

## **Anthocyanidins in Maqui Berry**

Delfinidin-3-glucoarabinoside-5-glucoside, Delfinidin 3,5-diglucoside, Cyanidin-3-glucoarabinoside-5-glucoside, Cyanidine 3,5-diglucoside, Delfinidin 3-glucoarabinoside, Delfinidin 5-glucoarabinoside, Delfinidin 3-glucoside, Cyanidin 3-glucoarabinoside, Cyanidin 3-glucoside

## **Benefits of Anthocyanins:**

- Neutralize enzymes that destroy connective tissue, prevents oxidants from damaging connective tissue, and repair damaged proteins in the blood-vessel walls.
- Lightens allergic reactions and increase capillary permeability.
- Promote cardiovascular health by preventing oxidation of low-density lipoproteins (**LDL**), and protecting blood vessels wall from oxidative damage.
- Maintain small blood vessel integrity by stabilizing capillary walls.

	<b>ORAC hydro (<math>\mu</math>mole/100g)</b>	<b>Anthocyanins (mg/100g)</b>	<b>Total Phenols (mg/100g)</b>
Red Wine	15-26	24-35	600
Red Grape Fruit	14	30-750	
Strawberry Fruit	2600		1600
Boysenberry Fruit	3500	160	
Cherry Fruit	2100-4700	350-400	1500
Blackberry Fruit	5100	82-325	3000
Cranberry Fruit	5200	50-80	1000
Red Raspberry Fruit	2700-5300	213-428	1300
Black Raspberry Fruit	5000-16,400	400	1300
Blueberry Fruit	3200-8700	25-495	
Bilberry Fruit	8186	300-648	400
Mangosteen Fruit & Pericarp	20,000-30,000	195	1500
<b>Acai</b> Spraydried Powder	18,400-31,000	319	
<b>Maqui Superberry Fruit Liquid</b>	<b>60,000-80,000</b>	<b>800-2200</b>	<b>4000-5000</b>
<b>Maqui Superberry Fruit Powder</b>	<b>50,000-90,000</b>	<b>3500-5000</b>	<b>6000-9000</b>

## The French Paradox and Anti-oxidants

The French have a diet very rich in cheese, sugar, coffee, nicotine, sugar and white flour. A high intake of saturated fat is normally associated with increased rates of heart disease. According to FAO data, the average French person consumed 108 grams per day of fat from animal sources in 2002 while the average American consumed only 72. The French eat four times as much butter, 60 percent more cheese and nearly three times as much pork. Although the French consume only slightly more total fat (171 g/d vs 157), they consume much more saturated fat because Americans consume a much larger proportion of fat in the form of vegetable oil. However, according to data from the British Heart foundation, in 1999, rates of death from coronary heart disease among males aged 35–74 years was 230 per 100,000 people in the US but only 83 per 100,000 in France.

This discrepancy is labeled the French Paradox. It has been suggested that France's high red wine consumption is a primary factor in the trend. It is believed that one of the ingredients in red wine potentially related to this effect is resveratrol. **Resveratrol** is a compound found largely in the skins of red grapes. Within the plant, its highest concentration is in the skin. Resveratrol is a phytoalexin, a class of antibiotic compounds that are naturally produced as a part of a plant's defense system against disease. With the extreme weather and high sun irradiation, Central & Southern Chile has the perfect weather for growing berries with high resveratrol level.

Researchers now believe they have the reason for the "French Paradox" - anthocyanins! The French drink a significant amount of red wine, and the anthocyanins in red wine is what is believed to be responsible for the very low incidence of heart disease. Although research continues on resveratrol, the concentration in wine seems too low to account for the French Paradox. Professor Roger Corder and team have identified a particular group of polyphenols, known as oligomeric procyanidins, which they believe offer the greatest degree of protection to human blood-vessel cells. Unlike resveratrol, procyanidins are present in wine in quantities that seem to be high enough to be significant: "Procyanidins are the most abundant flavonoid polyphenols in red wine - up to one gram per litre is found in some traditional style red wines. While red wine has a good quantity of anthocyanins, Maqui Superberry has over 30 to 60 times the anthocyanins as red wine.

New data has focused attention upon components of red wine such as phenols and anthocyanins. These phenols compounds inhibit the oxidation of **LDL** cholesterol, inhibit the formation of blood clots. Furthermore, the anthocyanins in red wine are also protective against coronary heart disease, since these red pigments inhibit cholesterol synthesis.

	Phenols (mg/ml)
<b>Maqui Berry Juice</b>	<b>8.36</b>
<b>Pomegranate Juice</b>	3.8
<b>Red Wine</b>	3.5
<b>Blueberry Juice</b>	2.3
<b>Acai Juice</b>	2.1
<b>Cranberry Juice</b>	1.7
<b>Orange Juice</b>	0.7
<b>Apple Juice</b>	0.4

**Total Radical Trapping Potential (TRAP)** measure the amount of free radicals that can be trapped and therefore represent the total antioxidant present.

**Total Antioxidant Reactivity (TAR)** indicates the capacity to decrease steady state of free radical concentration. Total phenols is positively correlate to TRAP and TAR. According to a research published in Journal of Agricultural & Food Chemistry, Maqui berry contains much higher polyphenols content and scored better for TRAP and TAR when compared to red wine, blackberry, strawberry, blueberry, cranberry, and raspberry.

