OREGON CANEBERRIES:

What research is revealing about red raspberries.

"We're not saying that this is a cure or a treatment for anything. This study is to look at cancer prevention, and our initial study shows some tantalizing results."

Dr. Daniel Nixon
Medical University of South Carolina

Curative aspects of the red raspberry have been of botanical interest since somewhere around 4 A.D. The leaves were made into teas and various parts of the plant were used for throat gargles, morning sickness remedies, digestive cures and the like. Today, new research suggests that eating red raspberries may prevent cancer by inhibiting the abnormal division of cells and promoting the normal death of healthy cells. Tests conducted at the Hollings Cancer Center at the Medical University of South Carolina have revealed that the human body readily absorbs the ellagic acid from red raspberries. This ellagic acid has been clinically shown to cause apoptosis (cell death) in certain cancer cells.

Among several significant phytochemicals, red raspberries contain ellagic acid, a phenolic compound that has exhibited anti-carcinogenic effects against a wide range of carcinogens in several tissues. Ellagic acid contributes to significant inhibition of colon, esophageal, liver, lung, tongue, and skin cancers in studies with rats and mice, both in vitro and in vivo. By the same token, quercetin, one of the flavanols found in raspberries, has been found to be an effective anticarcinogen against skin, colon, and mammary cancers in rodents. Anthocyanins are also prevalent in red raspberries, working as antioxidants that protect against heart disease and age-related mental decline.

What is interesting to note is the superior efficacy of eating red raspberries as opposed to taking the individual phytochemicals in the form of dietary supplements. Though we do not yet fully comprehend why this is so, it is clear the nutraceutical whole is greater than the sum of its parts.


BLACK RASPBERRY


BOYSENBERRY


EVERGREEN BLACKBERRY


MARIONBERRY


RED RASPBERRY

RED RASPBERRY

This table, provided for product formulation, presents the typical composition of red raspberries and major types of packs. Specific labeling information for each product type is available from Oregon processors. For a list of Oregon processors, see our website: www.oregon-berries.com.

	BLOCK FROZEN	IQF	PUREE+	JUICE CONCENTRATE
AMOUNT IN 100g				
Brix (° Brix)	10.6-13.0	10.8-13.4	8.0-15.0	45, 65, 68
Calories (Kcal)	40.60	44.62	40.43	242.40
Calories from fat (Kcal)	0.36	0.54	0.54	0.90
NUTRIENTS				
Lipids (g)	0.04	0.06	0.06	0.10
Total Carbohydrates (g)	9.18	9.71	8.89	57.90
Dietary fiber (g)	1.35	2.60	3.05	0.16
Sugar (g)	4.97	5.10	4.89	46.85
Protein (g)	0.88	1.31	1.09	3.34
Vitamin A (IU)	50.00	90.00	68.00	n/a
Vitamin C (mg)	17.54	15.29	4.26	2.40
Calcium (mg)	4.99	13.00	15.00	83.00
Iron (mg)	0.38	0.86	1.06	1.50
Sodium (mg)	0.54	1.50	1.91	65.00

NUTRACEUTICAL VALUES

Anthocyanins 20-65 mg/100g
Ellagic Acid . . . . . 3.39 mg/g dry wt
ORAC . . . . . 24 umole TE/g
Salicylic Acid 5 mg/100g
Quercetin 12 mg/100g
Catechins 83 mg/100g

+ Single strength – seedless or with seeds

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"Based on the inhibition of cancer seen in the animal model, further studies will be conducted to examine the effects of black raspberries on cancer-related markers in human clinical trials. This study and others like it raise the possibility that specific dietary modifications may someday be used as a tool to prevent cancer."

Dr. Keith Harris
Food and Science Technology
Ohio State University

How we can enhance the health of our bodies through nutritional intervention is a subject researchers are now studying. What we know to be scientific fact is that damage by oxygen free radicals is a contributing factor in many of the problems associated with aging, particularly cardiovascular disease and cancer. Oxygen free radicals attack DNA, causing cell mutation, that in turn prevents natural cell death. Antioxidants, such as ORAC, have an innate ability to seek and destroy oxygen free radicals. This is why foods that have high ORAC values, such as the potent black raspberry, are so essential to a healthy daily diet.

Generally speaking, dark-colored berries are naturally high in flavonoids and phenolics (such as anthocyanins and ellagic acid), making them strong antioxidants. This is particularly true in the case of black raspberries—they contain almost twice the amount of phenolic content found in other berries.

Studying the natural chemopreventive properties of black raspberries, Dr. Gary Stoner of Ohio State University reported findings that may support a food-based approach to cancer prevention. In the study, freeze-dried black raspberries inhibited colon cancer by about 50 percent when added to the diets of rodents that had been chemically treated with carcinogens. This study is an extension of earlier research in which freeze-dried strawberries and black raspberries prevented carcinogen-induced esophageal cancer in rodents by 50-70 percent.* Stoner's team is about to embark on human clinical trials, studying particular types of colon and esophageal cancer.

As you review the following table, notice just how potent the black raspberry is in the various aspects of its composition.


BLACK RASPBERRY


BOYSENBERRY


EVERGREEN BLACKBERRY


MARIONBERRY


RED RASPBERRY

"If these findings are borne out in further research, young and middle-aged people may be able to reduce risk of diseases of aging—including senility—simply by adding high-ORAC foods to their diets."

Floyd P. Horn
Agriculture Research Services Human Nutrition Research Center,
Tufts University

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	IQF	Puree+
AMOUNT IN 100g		
Brix (° Brix)	9.8-11.8	10.5-18.0
Calories (Kcal)	72.54	60.11
Calories from fat (Kcal)	0.14	0.63
NUTRIENTS		
Lipids (g)	0.02	0.07
Total Carbohydrate (g)	16.75	14.12
Dietary fiber (g)	1.68	2.17
Sugar (g)	5.15	4.44
Protein (g)	1.35	0.75
Vitamin A (IU)	38.00	< 30
Vitamin C (mg)	2.36	1.47
Calcium (mg)	32.00	21.00
Iron (mg)	1.35	0.91
Sodium (mg)	0.51	1.30

NUTRACEUTICAL VALUES:

Anthocyanins . . . . . 214-589 mg/100 g
Ellagic Acid . . . . . 5.37 mg/g dry wt
ORAC . . . . . 77 umole TE/g

+Single strength – seedless or with seeds

*The effects of dietary ellagic acid on rat hepatic and esophageal mucosal cytochromes P450 and phase II enzymes, Ahn, Putt, Kresty, Stoner et al, Carcinigenesis, 1996 April; 17 (4)821-8