

What's the Score?



Neways recently sent samples of Revenol and Cascading Revenol to be tested to find out what their ORAC scores are. Read on to discover their ratings and what their ORAC scores mean for you...

What is ORAC?

ORAC stands for Oxygen Radical Absorbance Capacity. This is a scientific way of saying "How well does a certain food help my body fight disorders like cancer and heart disease?" Oxidation and oxygen radicals are well-known and documented; this process leads to cell damage. Prevention or limitation of this damage will improve health and has led to increased sales of antioxidant food supplements.

The public is becoming more aware of foods which are naturally high in antioxidants. These fruits and vegetables are promoted by numerous agencies and organisations. ORAC scores are used by nutritionists to identify which foods offer a higher capacity to absorb free radicals; the more oxygen a food can absorb, the higher the ORAC score.

The use of ORAC scores easily identifies which foods are better at fighting cancer, heart disease, etc. The studies indicate that eating plenty of high-ORAC foods:

- ❖ raises the antioxidant power of human blood 10 to 25 per cent;
- ❖ prevents some loss of long-term memory and assisted learning ability in middle-aged rats;
- ❖ maintains the ability of brain cells in middle-aged rats to respond to a chemical stimulus - a function that normally decreases with age;
- ❖ protects rats' tiny blood vessel capillaries against oxygen damage.

Nutritionist Ronald L. Prior contends, "If we can show some relationship between ORAC intake and health outcome in people, I think we may reach a point where the ORAC value will become a new standard for good antioxidant protection." (See table at end for ORAC values of fruits and vegetables.)

Can foods slow down ageing?

Studies on ageing at the United States Department of Agriculture Human Nutrition Research Centre at Tufts University in Boston, suggest that consuming fruits and vegetables with high ORAC values may help slow the ageing process in both the body and the brain. ORAC measures the ability of foods, blood plasma and just about anything to subdue oxygen free radicals in test conditions.

These results have prompted speculation that the ORAC measure may help define the dietary requirements needed to help prevent tissue damage.

It has been suggested for many years that damage by oxygen free radicals is behind many conditions associated with ageing, including cardiovascular disease and cancer. Firm evidence supports the theory that a high intake of fruits and vegetables reduces the risk of cancer and a low intake raises risk. Recent evidence suggests that

reduced brain function associated with ageing and other disorders like Alzheimer's may be due to increased vulnerability to free radicals.

Such evidence has prompted increasing sales in antioxidant food supplements in recent years, but several large studies involving individual antioxidants have had mixed results. It may be that combinations of nutrients in foods have a greater effect than each nutrient taken alone. The ORAC value covers all antioxidants in foods and can be used to identify which foods offer a higher potential for antioxidant capability.

Antioxidants and Blood

Several laboratories have reported that individual plant-derived antioxidants (flavonoids) are thought to have protective powers. Approximately 4000 flavonoids have been identified. They constitute a major class of antioxidants and appear to be responsible for the major part of fruit and vegetable power. Scientists have found evidence that food antioxidants are not only absorbed but actually boost the antioxidant power of the blood.

A study involving 36 men and women aged 20 to 80 was conducted, with the participants doubling their daily fruit and vegetable intake. The average quantity of fruit or vegetable portions was increased from five to ten a day and the relative ORAC daily units calculated. The daily ORAC consumption was raised from 1,670 to between 3,300 and 3,500 - approximately double the previous score. Blood analysis indicated a 13 to 15 per cent rise in blood plasma ORAC scores. This study supports a preliminary study, which showed a 25 per cent rise in serum ORAC after eight women were given test meals made from high ORAC foods, red wine or vitamin C. Red wine was used as it tests high for ORAC and has been linked with a lower risk of cardiovascular disease.

The noted increase on blood serum values cannot be completely associated with vitamin C, vitamin E or other carotenoids. The body must be absorbing a range of components found in these fruits and vegetables. The antioxidant capacity of blood is not unlimited, but a significant increase of between 15 to 20 per cent can be achieved.

The power of antioxidants

Neways International (UK) Ltd commissioned an independent laboratory in the UK to test a number of Neways' supplements for comparison with fruit and vegetables. The table indicates the ORAC values of a number of foods, compared with Revenol and Cascading Revenol.

Cascading Revenol is 150 times more powerful than the best antioxidant fruit, blueberries, with Revenol being 33 times more powerful than the same fruit.

The results of our testing have even more surprising conclusions.

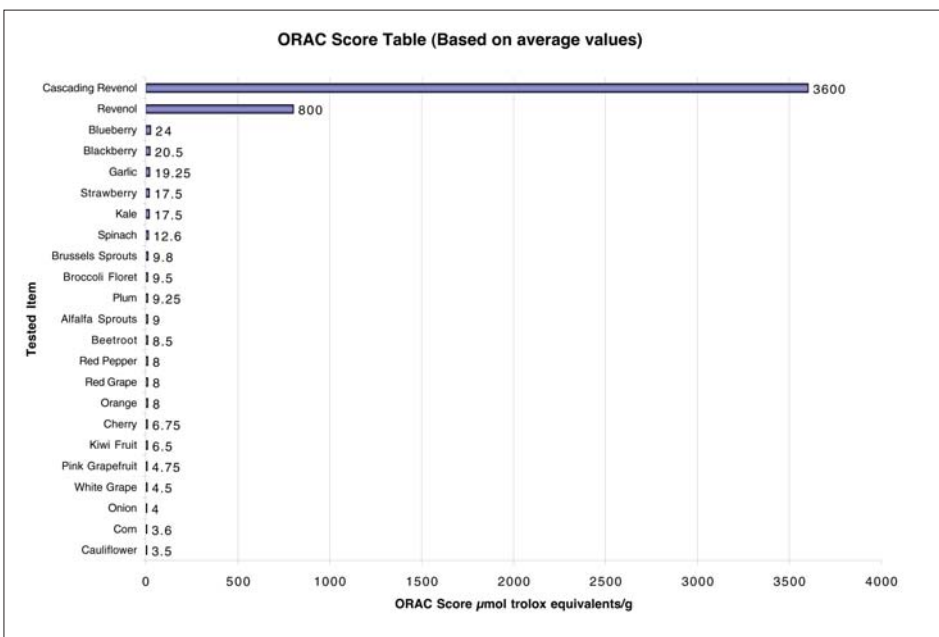
Cascading Revenol is 450 times a stronger antioxidant than both oranges and red grapes.

You are what you eat

The ORAC values of different foods is so wide that selecting the right foods is vitally important. For example, choosing six foods with lower values could provide less ORAC units than a single food with a high score. Studies have yielded even more support for high ORAC diets. High ORAC diets have been linked to the protection of nerve cells within the brain against effects of ageing. Researchers have concluded that motor and memory loss cannot be prevented completely but high ORAC diets help prevention and management of these age-related conditions.

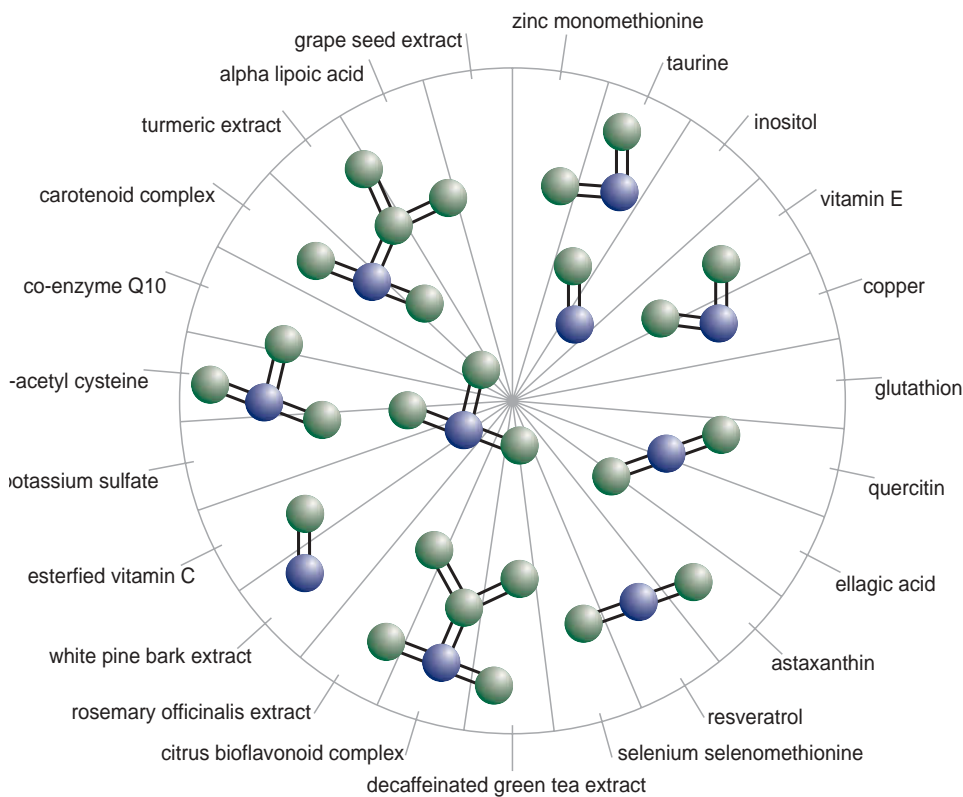
What does this mean for you?

The latest guidelines from the Food Standards Agency (FSA) advises that everyone should consume at least five portions (one portion = 80g) of fruit and veg a day. Neways believes that a healthy diet is vitally important to general health.



As with many other scientific figures ORAC have their own unit of measurement, such as metres and kilograms. ORAC is measured in umol Trolox equivalents per gram (umol TE/g).

23 Antioxidants in Cascading Revenol



A High ORAC diet could consist of:

Breakfast : Strawberries (40g)
Kiwi (40g)

ORAC: Strawberries 700
Rating Kiwi 260

Lunch: Stuffed pepper (80g)
Small orange (80g)

ORAC : Pepper 640
rating Orange 680

Dinner: Main meal complemented
by two servings of
vegetables (broccoli and
cauliflower)

ORAC : Broccoli 760
Rating Cauliflower 360

Total daily ORAC value is therefore
3400. The average daily score for a
normal diet would be about 2000 units.
The aim of a high ORAC diet would be

to achieve a daily intake between 3300
and 3500 units.

Supplementing a diet with one Revenol
and one Cascading Revenol a day will
provide a total of 4028 ORAC units.
Coupled with a healthy diet this
ensures that the recommended ORAC
intake is not only achieved, but is con-
siderably enhanced, with an estimated
total of 7500 ORAC units.

It is important to note that the recom-
mended daily ORAC intake can be
achieved by consuming one
Revenol and one Cascading
Revenol a day.

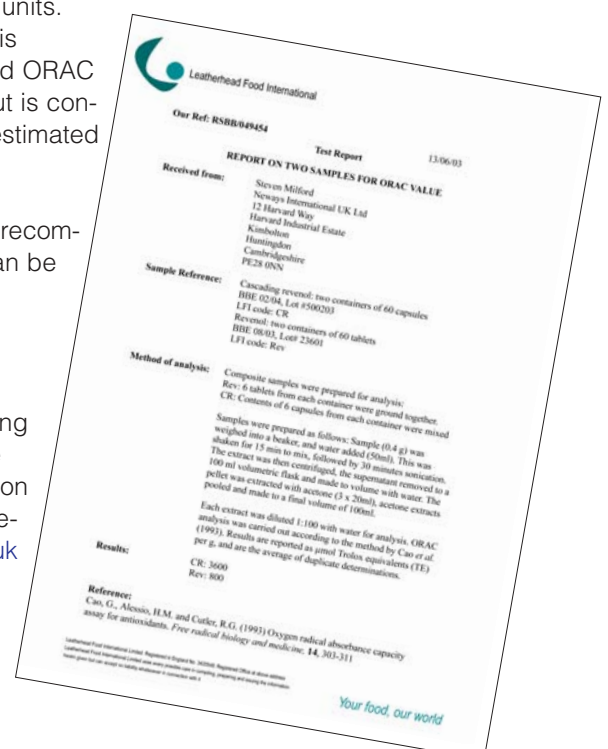
For further information regarding
this article, please contact the
Neways' Product Department on
01480 861764 option 2 or by e-
mail to products@neways.co.uk

Revenol Code: 1700GB

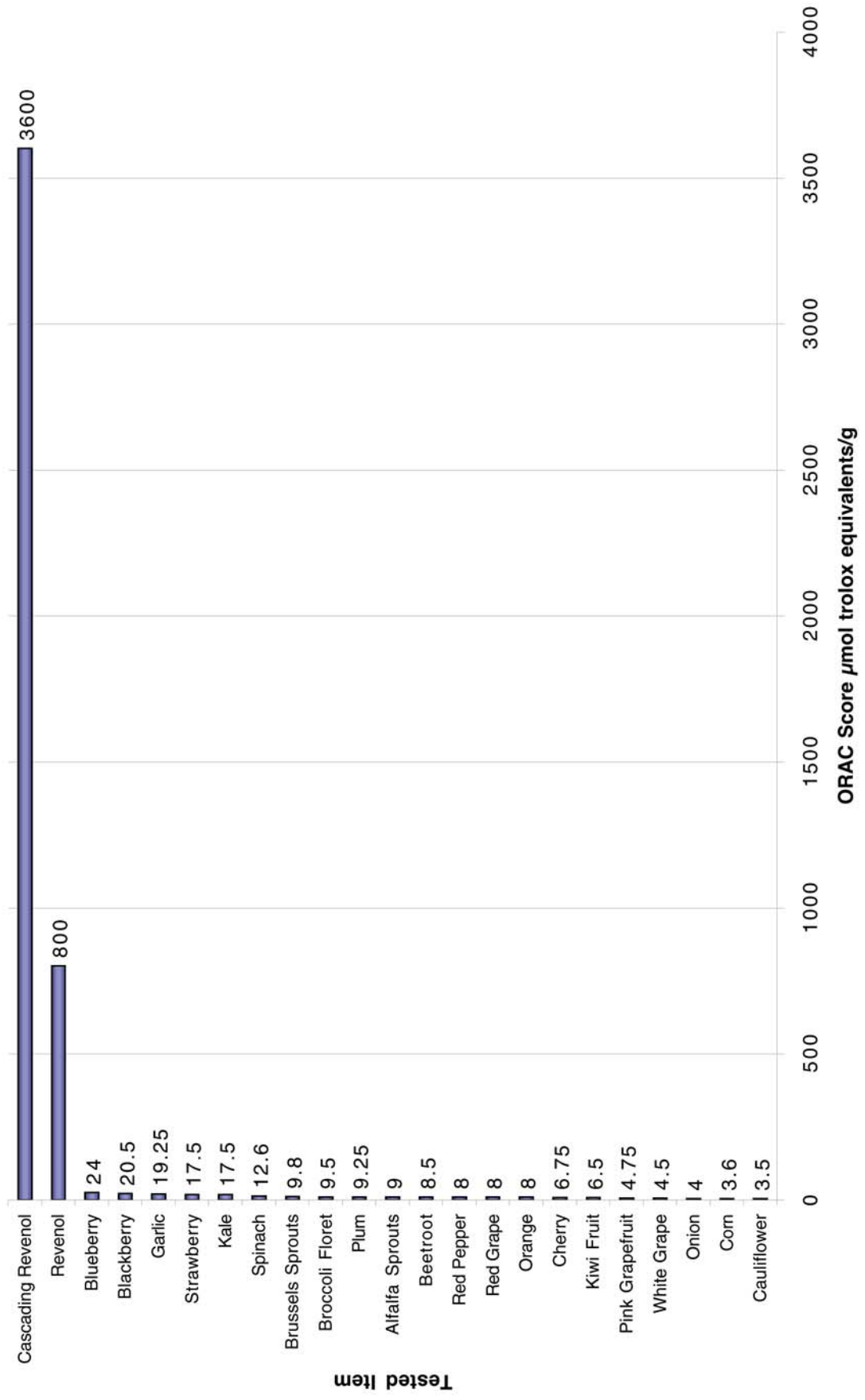
Price: £16.50/ 23.92 - PV: 16.50

Cascading Revenol Code: 1701GB

Price: £35.00/ 50.75 - PV: 35.00



ORAC Score Table (Based on average values)





Our Ref: RSBB/049454

13/06/03

Test Report

REPORT ON TWO SAMPLES FOR ORAC VALUE

Received from: Steven Milford
Neways International UK Ltd
12 Harvard Way
Harvard Industrial Estate
Kimbolton
Huntingdon
Cambridgeshire
PE28 0NN

Sample Reference: Cascading revenol: two containers of 60 capsules
BBE 02/04, Lot #500203
LFI code: CR
Revenol: two containers of 60 tablets
BBE 08/03, Lot# 23601
LFI code: Rev

Method of analysis: Composite samples were prepared for analysis:
Rev: 6 tablets from each container were ground together.
CR: Contents of 6 capsules from each container were mixed

Samples were prepared as follows: Sample (0.4 g) was weighed into a beaker, and water added (50ml). This was shaken for 15 min to mix, followed by 30 minutes sonication. The extract was then centrifuged, the supernatant removed to a 100 ml volumetric flask and made to volume with water. The pellet was extracted with acetone (3 x 20ml), acetone extracts pooled and made to a final volume of 100ml.

Each extract was diluted 1:100 with water for analysis. ORAC analysis was carried out according to the method by Cao *et al.* (1993). Results are reported as μmol Trolox equivalents (TE) per g, and are the average of duplicate determinations.

Results: CR: 3600
Rev: 800

Reference:

Cao, G., Alessio, H.M. and Cutler, R.G. (1993) Oxygen radical absorbance capacity assay for antioxidants. *Free radical biology and medicine*, **14**, 303-311