

NIKKEI Health Magazine Feature (June 2005)

Do you know what blackcurrant berries are? These berries are black, sweet and sour, high in polyphenol content, and they improve blood circulation. Blackcurrants also have a positive effect on feelings of cold throughout the body, stiffness in the shoulders, and eye fatigue.. It is already understood that drinking blackcurrant products has a beneficial effect on dark circles under the eyes. In addition to an immediate effect, we are pleased to report that there is a long-lasting effect, as well. We bring to your attention and introduce the power of blackcurrants!

15 minutes after drinking blackcurrant products, the skin below the eye becomes lighter and the persistent under-eye bags, sagging, and dark circles are reduced!

Blackcurrant berries' effect on under-eye circles

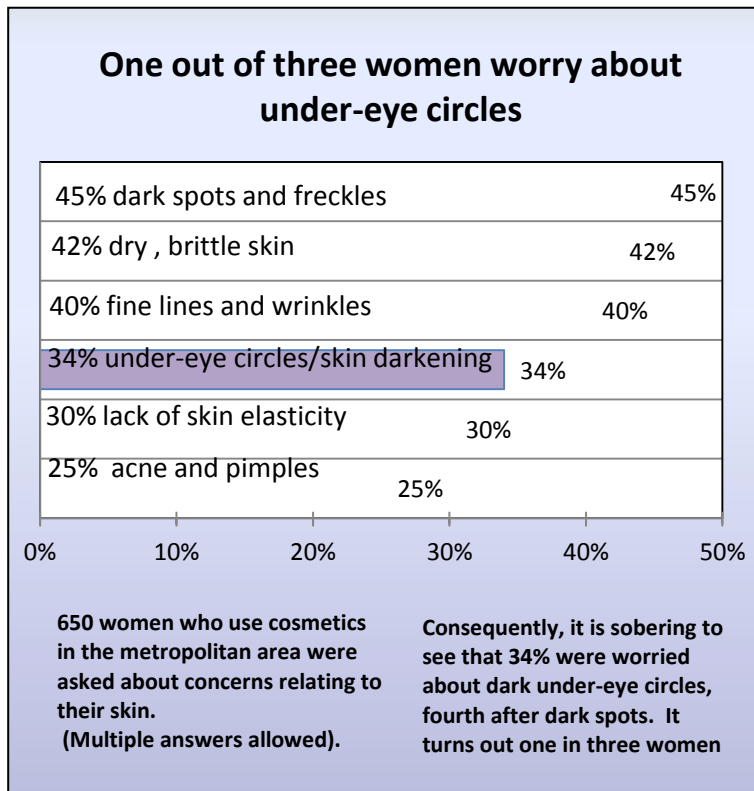
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Eye fatigue ,stiffness in the shoulders and bodily coldness will improve!

One out of three women worry about dark circles under their eyes. The cause is poor blood circulation.

The appearance of under-eye circles area concern to many women. The problem is poor blood circulation. Are you concerned, as well? Dark circles under the eyes are caused by poor blood circulation in the skin surrounding the eye. An effective measure for this is the increase of blood flow to the face

Dark lines under the eyes give the impression of ageing. If lack of sleep and fatigue continue, there will be many more people developing, and worrying about, under-eye circles. In an investigation looking into concerns about the skin, the results showed that one out of three people worried about under-eye circles.

(Graph A, pg. 92)



What is the primary cause of this condition? Director Suzuki of Suzuki Plastic Surgery says, "There are three causes."

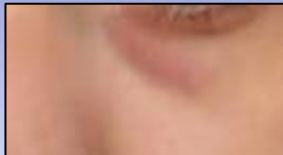

1. **Poor blood circulation.**

If the blood flow of the capillary vessels under the skin worsens and slows, the blood will become a dark color due to an oxygen shortage. Because facial skin is thin, especially below the eyes, dark red blood is visible through the skin. This is how skin darkening occurs. (See graph below)

2. **The settlement of the melanin.** With discoloration caused by poor blood circulation, a darkened tint is visible and can look like spots. It is said that those who often rub their eyes, and people with atopic dermatitis, tend to cause eye damage.

(Graph C, pg. 92)

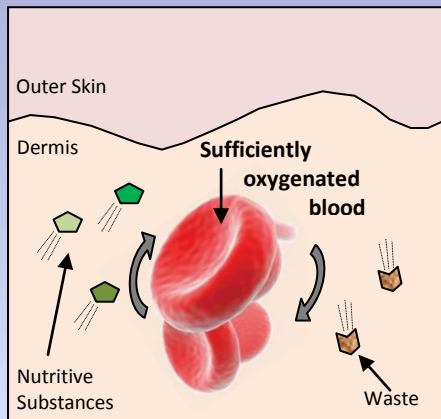
Color and appearance of under-eye circles will vary according to type

	
1. Color from poor blood circulation	2. Color from melanin
<p>Blood that flows satisfactorily appears red and carries abundant oxygen. In the above picture, the blood has become dark red due to an oxygen shortage. Darkening below the eyes is caused by poor blood circulation. This dark colored blood is visible through the thin skin.</p>	<p>When the color of melanin worsens, it will become brownish or black in color like a blemish. Those who often rub their eyes tend to cause damage to the eye.</p>

There are cases where dark spots are conspicuous, such as when a lot of blood has accumulated around the eye. (Graph B, pg. 92)

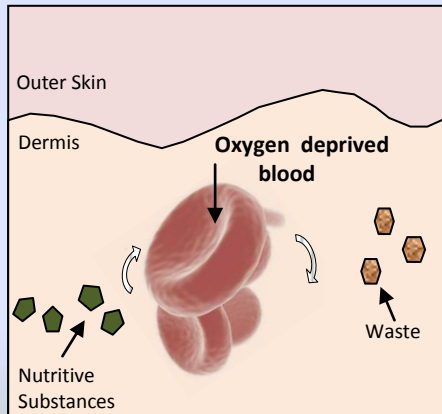
Under-eye circles are conspicuous when blood flow is slowed

Skin without under-eye circles

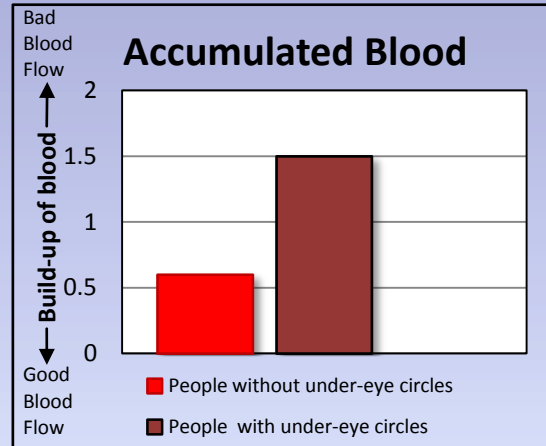


**Plentiful oxygen
Good blood flow**

Skin with under-eye circles



**Reduced oxygen
Poor blood flow**



After measuring the amount of accumulated blood around the eyes of two groups of people – those with noticeable under-eye circles and those without under-eye circles – it was found that those suffering from visible eye circles had more accumulation of blood.

If blood flow is weak, then blood circulation slows and the blood itself becomes oxygen deprived. This causes blood's normally bright red color to darken. . Because the under-eye skin is thin, the darker blood is visible through the skin and appears as a darkening below the eye. (Kanebo Basic Science Laboratory)

3. **A shadow formed by the hollow of the eye.** There are people from whom the bottom of the eye tends to become a shadow on the structure of their face. Furthermore, when they grow older, the surrounding skin of the eye slackens, the hollow becomes deep, and the shadow becomes conspicuous.

Although there are different types of eye discoloration and under-eye circles, most are caused by poor blood circulation.

The dark circles which occur at night and in the morning are examples of this. You have probably had an experience where you were surprised when you looked into the mirror in the morning. The appearance of dark circles under the eyes is not the only concern; the cause of the discoloration also accelerates ageing in the skin.

“If poor blood circulation continues, the metabolism of the skin will also decline,” states Suzuki. If this happens, the melanin will become more obvious as under-eye circles are encouraged. “Early care is important to prevent the effects of poor blood circulation from becoming severe.

What methods can be implemented to counteract the appearance of dark circles under the eyes?

Getting enough sleep and avoiding an accumulation of fatigue are both foundations for prevention. There are also the methods of applying warmth to the surrounding area of the eyes or massaging the area to improve blood circulation; however, people may find it difficult to find the time to do these things during a busy morning and even if one could find the time, massaging does not quickly improve the skin's appearance. The popular method of coping with under-eye circles has been to hide them with make-up.

Now, a new measure has been found for addressing the problem! Quickly improving the blood flow under the eye can reduce dark circles. This new measure is introduced in detail in the following pages.

Once you have under-eye circles, they are difficult to get rid of.

Conventional treatments are:

1. Massage around the eyes
2. Conceal with cosmetic cream
3. Administer high frequency thermotherapy

Even if you massage the area, circles do not disappear immediately. Cosmetic creams only hide the appearance and non-conventional high frequency thermotherapy does not have a decisive effect.

I have discovered a new and simple method!
Details are contained in the next page.

There is a new and improved method for treating dark under-eye circles, fatigue of the eyes, and feelings of cold throughout the body.

Blackcurrant berries have many health benefits.

Typically, blackcurrants improve the blood stream and aesthenopia (eyestrain).They also improve stiffness in the neck and feelings of cold throughout the body.Furthermore, in the newest research it was shown clearly that it can reduce sagging (*dark coloration*) under the eyes.

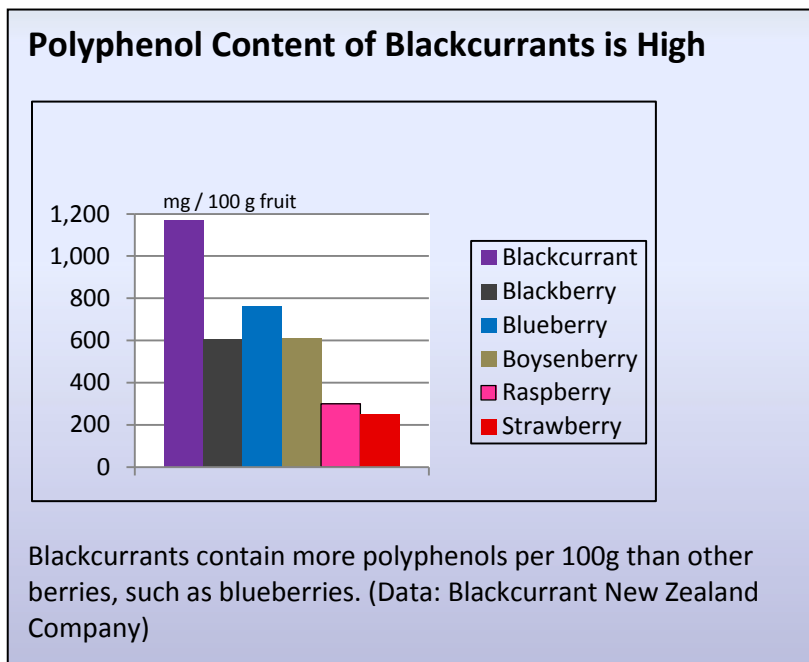
One function of the blood stream is to prevent tiredness and cold in the body.

The Japanese name for blackcurrants is kurorasuguri, the English name is blackcurrant, and the French name is cassis. This fruit is the new template for the treatment of dark circles under the eyes. Strawberries and blueberries, etc., all belong to the berry family and have strong acidity. In Japan, blackcurrants are generally used for jam and liqueur.

Blackcurrants contain many minerals including vitamins C and A, calcium, iron, potassium, etc. Particularly, they contain 2-3 times more vitamin C than oranges.

Their distinctive feature is their richness in polyphenol content. When you compare blackcurrants with other berries, such as strawberries and blueberries, blackcurrants are higher in polyphenol content.

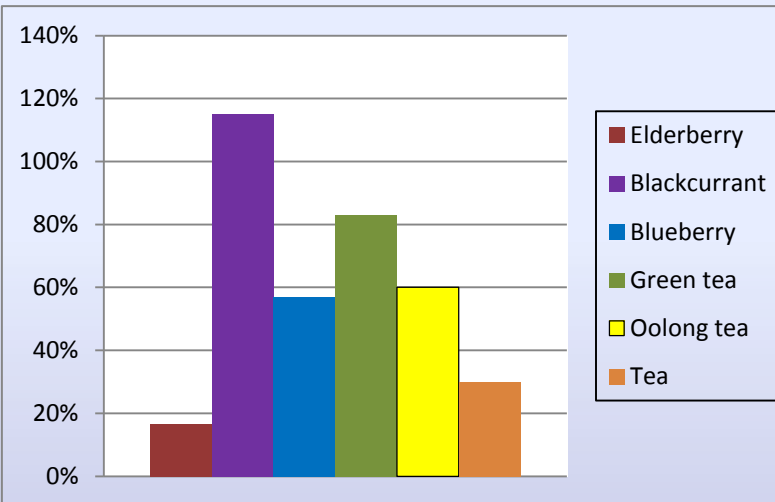
Graph B, pg. 95



The polyphenols in blackcurrants possess a strong antioxidant power. It is higher than in blueberries or tea.

(Graph A, Page 95)

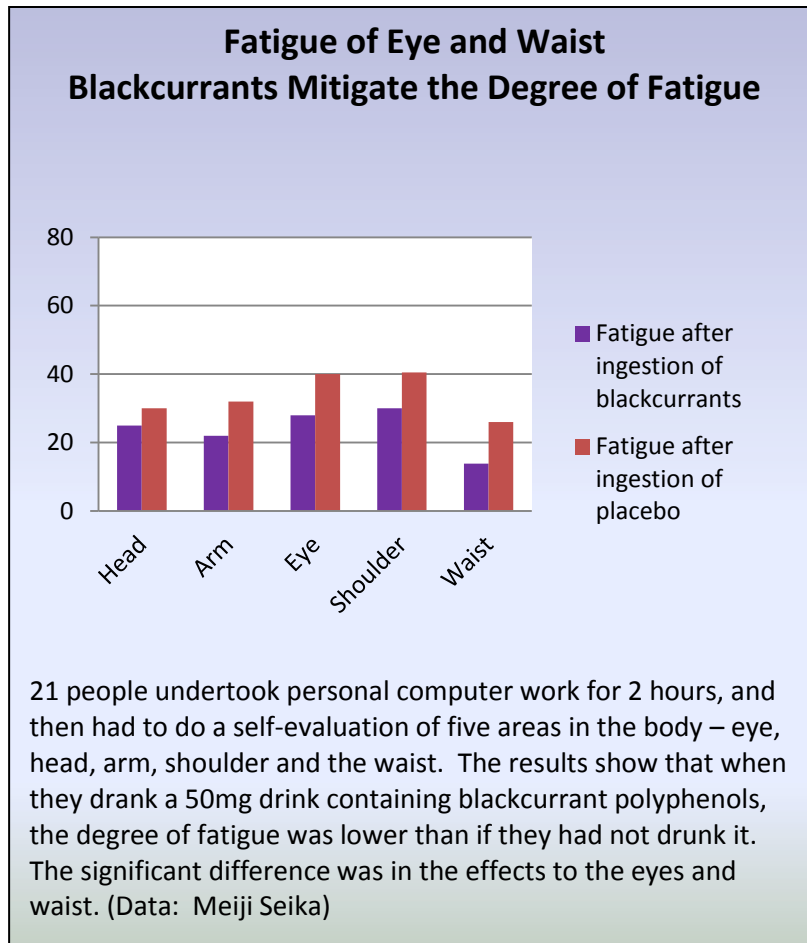
Antioxidant Power of Blackcurrants is High



Six foods, such as blueberries and tea were compared for the oxygen radical elimination ability of polyphenols. Consequently, it was blackcurrants which had the highest antioxidant activity.

(Luminescence, 2001; 16; 327-335)

What kind of health benefits do the polyphenols in blackcurrants have?
(Graph D page 95)



The results show the effect of blackcurrants on fatigue to the eyes, shoulders, back, etc., after people had worked at a computer for two hours. Those who had taken products containing blackcurrants did not feel or become as tired as those who had not taken them.

It also has improved poor blood circulation. In an experiment that investigated the recovery of skin temperature, a hand was dipped into cold water for one minute. The recovery was clearly more rapid in those who had consumed blackcurrants.

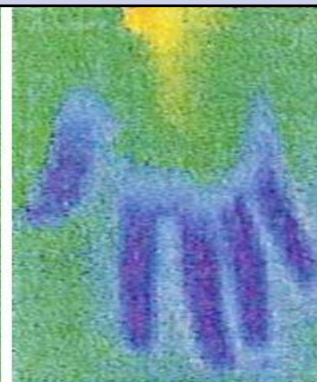
(Graph C, page 95)

Coldness improved after 15 minutes with ingestion of blackcurrants

Ingestion of blackcurrants
15 min. after cold water



Ingestion of placebo
15 min. after cold water



Red indicates high temperature Blue indicates low temperature

The subject is a woman who suffers from cold. After dipping a hand in 10 degree Celsius water for one minute, recovery of the surface temperature of the skin was investigated by thermography. The results show the recovery was clearly earlier when blackcurrants had been consumed. (cassis anthocyanin 50 mg content). The difference in temperature after 15 minutes is clear in the photograph. (Data: Meiji Seika)

“This work is based on the blood-flow improvement action, which blackcurrant polyphenols have. Moreover, although oxygen radicals, which are powerful enemies of the skin, occur after a blood vessel contracts, the powerful antioxidant activity of blackcurrants is useful to the elimination of these oxygen radicals. It also turns out that there is an action where a small amount of carbon monoxide is generated in the body and makes a blood vessel extend. The blood flow of such action will improve.” Senior research scientist Matsumoto of the Meiji Seika health food research institute outlined this in a presentation on blackcurrants.

Furthermore, it recently became clear that the polyphenols contained in blackcurrants is good for the skin. Research shows that ingestion of blackcurrant polyphenols can cause dark dis-coloration under the eye to improve. It is surprising because it illustrates that the discoloration is improved only by drinking the blackcurrant polyphenols. It is discussed in the following page in detail.

Graph F, pg. 95



Blackcurrant has a long history of being used in remedies overseas.

Although blackcurrants are a native fruit to Europe, they are now available all over the world. In European countries, New Zealand, the USA, China, etc. there is a lot, especially in production.

Many blackish berries (blackcurrants) are attached to a low tree with a height of about 2m (about 3 ½ feet).

The blackish color is the result of the presence of anthocyanins, which are a type of polyphenol.

The polyphenols in blueberries are famous in Japan but it is said that blackcurrants are more common in Europe and America. From ancient times it has been said that blackcurrants are good for the eyes, throat, fatigue, liver and arthritis, and have been used in remedies for these. Even now it is loved and known as a fruit for good health.

A complexion can become bright almost immediately by drinking blackcurrant polyphenols. The peak of improvement comes 90 mins after drinking it.

Blood flow to the face is improved only by drinking blackcurrant polyphenols. Dark circles under the eyes begin to improve after just 15 min. These results were a surprise. It is good news for any woman who has hidden dark under-eye circles with make-up.

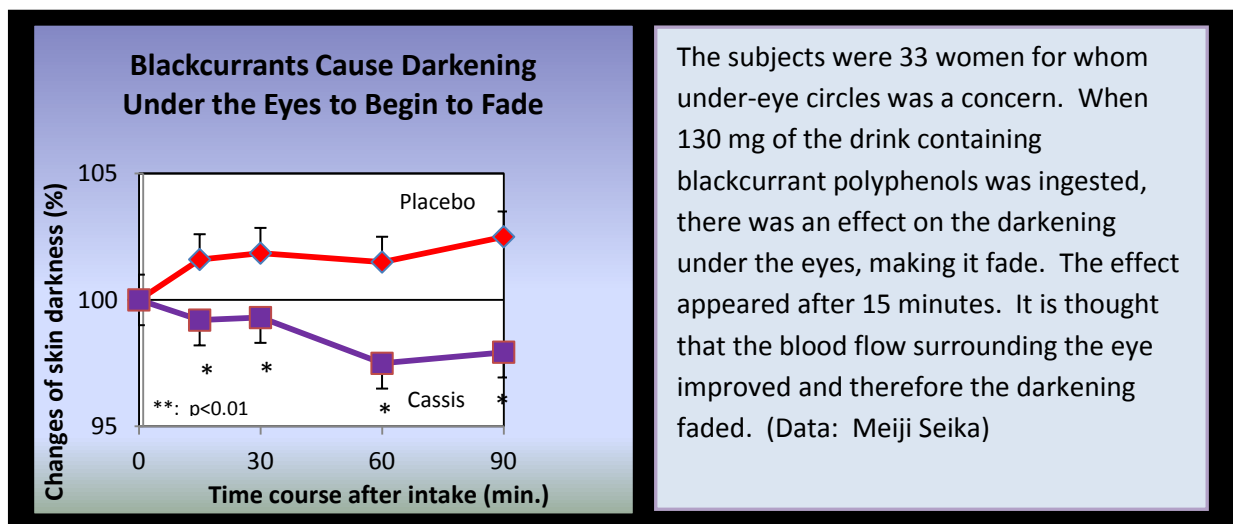
Proof! The lustrous skin results of blackcurrants

When blackcurrant is ingested there is an improvement to the blood flow after 15 mins.

If you look in the mirror in the morning, you may see dark circles under the eyes brought about by lack of sleep and tiredness. Worrisome circles can fade by drinking juice at this time. This is easy to do, don't you agree?

The results of the experiment shows clearly that dark under-eye circles improve immediately only by drinking juice which contains blackcurrant polyphenols.

The experiment was conducted on 33 women for whom dark under-eye circles are a worry in everyday life. The effect of consuming a drink containing 130mg of blackcurrant polyphenols was compared to the effect of consuming a drink with the same taste and color but which did not contain blackcurrant polyphenols.



When the drink containing blackcurrant polyphenols was consumed, the blood flow to the face improved after only 15 minutes, and it peaked after 90 minutes.

“Since most of it is absorbed in the stomach, the active ingredient in blackcurrant bears quick results. Those who drank it felt warm in the stomach and in the face. The blood flow improvement continued as the effect was checked up to 4 hours after [consumption].” (Senior research scientist Matsumoto).

The photo (thermograph) in the lower left of page 97 is the result of an independent experiment. In it, change in blood flow can be seen at a glance. 15 minutes after consuming blackcurrant polyphenols, it appears that at the bottom of the eyes, or in the cheeks, the levels of the blood flow have increased. (Graph G, pg. 97)

Now if we return to the results of the original experiment (graph E, pg. 95) , the darkening under the eyes was shown to have decreased and the circles had faded. Furthermore, the skin's brightness (*Graph B, pg. 97*) and rosy/healthy glow (*Graph C, page 97*) also improved. “When blood flow improves, it results in blood that contains oxygen, washing away the stagnant blood with insufficient oxygen, and beginning to flow,” said Director Ichihashi of Sankurininikku when talking about skin ageing.

Moreover, two thirds of participants were aware of an improvement in under-eye circles when they did a self evaluation (*graph D, pg. 97*). Also, for the people like the woman in the photograph, the effect was quite obvious. Director Ichihashi was surprised by the effects of blackcurrant. “I haven't [ever] seen this improvement effect happen in such a short time.” Blackcurrants' improvement effect of under-eye circles can be said to be long-awaited good news to these women.

The method of an experiment

The subjects are 33 healthy women (30-45 years old) with worries about under-eye circles. The experiment was conducted in an air conditioned room at a temperature of 24 degrees C and 40% humidity and lasted forty minutes or more. Two types of drink were consumed -- one containing 130mg of cassis (*blackcurrant*) polyphenols and the other with the same taste and color but without cassis polyphenols. Neither the subject nor the researcher was aware of which drink was taken at the time. For each drink, the amount of blood flow, brightness, darkening, and rosiness of the skin was investigated.

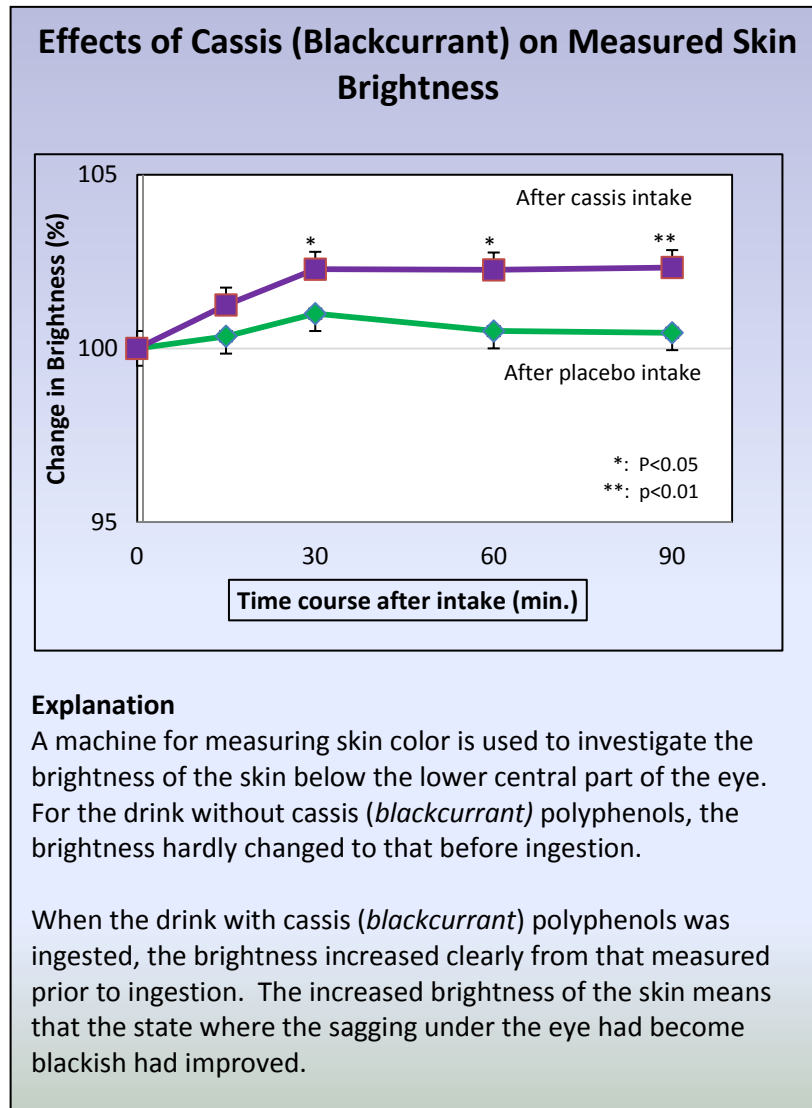
Graph A, pg. 97

Under-eye Circles Reduced After 90 Minutes

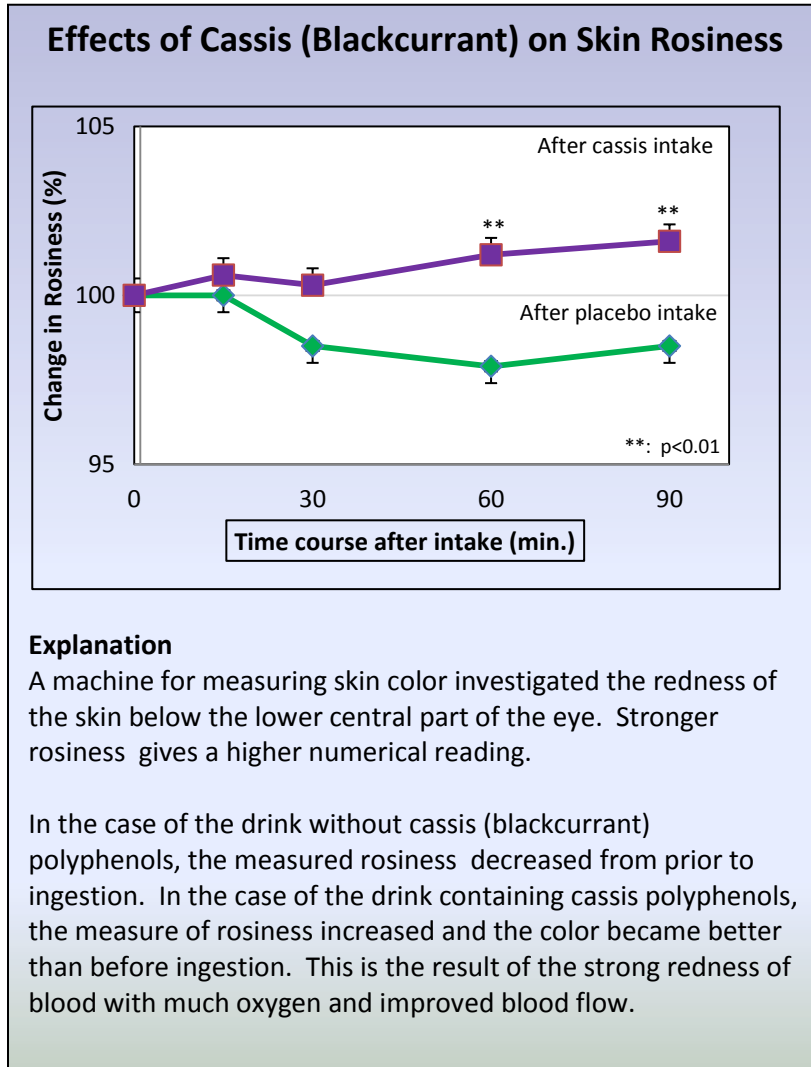
(NEED TO LOCATE THIS MEIJI PHOTO SOMEWHERE IN OUR FILES)

Subject: A 40 year old woman. When the subject consumed the drink containing cassis (blackcurrant) polyphenols, after 90 minutes the red under	her eyes and dark colored circles under her eyes were clearly reduced. It seemed that some droopiness had also improved. (Photograph: Meiji Seika)
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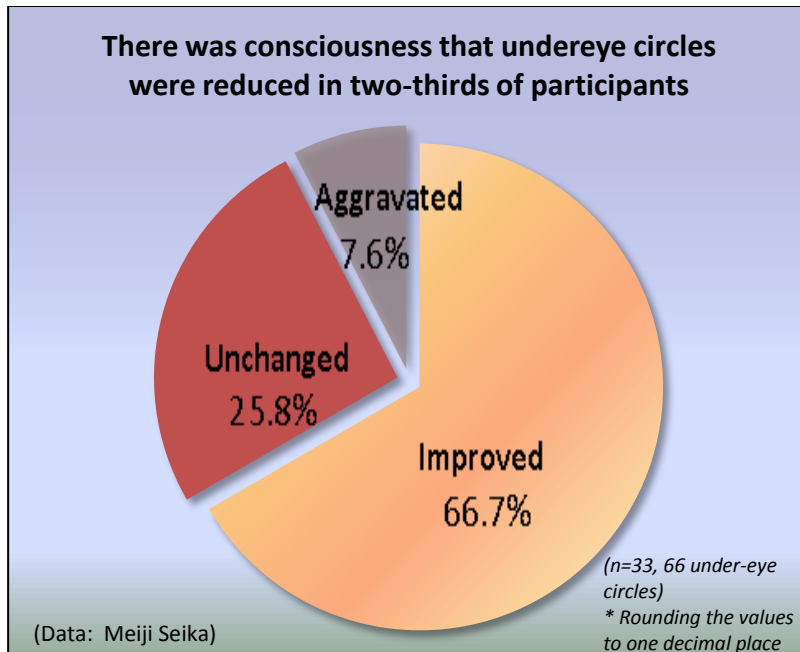
Graph B, pg. 97



Graph C, pg. 97



Graph D, Page 97



TESTIMONIAL!

Mrs. B (35 years old):

Her face got warm and visible circles under the eyes were reduced. "Honestly, I thought [there would be] not much possibility of change." However she was surprised. Her whole face got warm after consuming the drink and when she looked in the mirror she had the feeling that the color of the circles was reduced and became closer to the color of her natural skin. (Although the tips of her feet would always get cold, it was seldom worrisome at this time.) "Blackcurrant juice is delicious and if possible I will want to take it every morning."

TESTIMONIAL!

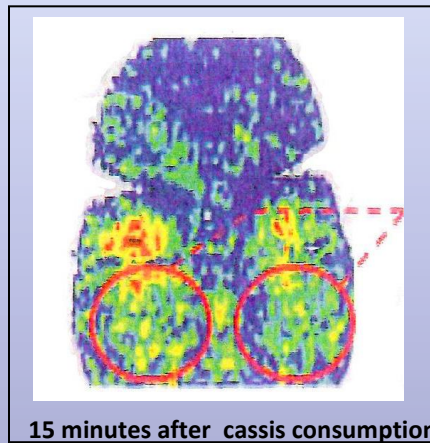
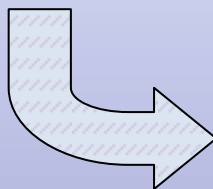
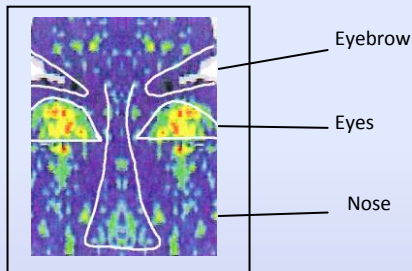
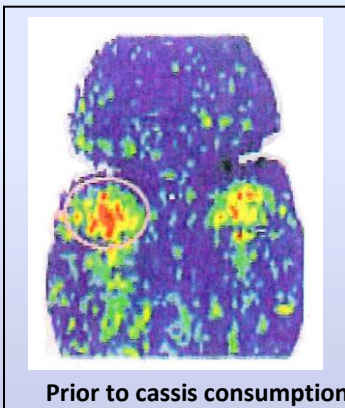
Mrs. A (45 years old):

“In the mirror, I felt that the under-eye circles were *reduced.*”

Graph G, pg. 97

The Blood Flow Under the Eye Increased With Cassis (*Blackcurrant*)

After 30 minutes in an air conditioned room at 23 degrees Celsius, blood flow changes in the face were investigated using laser blood flow imaging equipment. 15 minutes after consuming 130 mg of cassis (*blackcurrant*) polyphenols, the proportion of yellow and red in the image is increased, such as below the eye, the cheek and nose, because the blood flow is good. There is an immediate effect of blood flow improvement with cassis (*blackcurrant*) polyphenols.



THE FOLLOWING PAGE WAS NOT INCLUDED DUE TO ITS REFERENCING LOCAL PRODUCTS. I CAN INCLUDE IT IF NEEDED IN THE FUTURE.

Page 98

Text at top of page.

(In Japan?).

Food and drink containing cassis (*blackcurrant*) appears one after another. Although conventionally cassis (*blackcurrant*) was seen only in liqueur and jam, the products (containing cassis), such as candy and juice have recently been increasing. Unusual sweet-sourness and strong aroma are the feature (of cassis-blackcurrant). It is felt as a result of research that it is necessary for panel to consume 50 mg – 130 mg of cassis (blackcurrant) polyphenols/anthocyanins for improving blood flow, lustrous skin, and aesthenopia (eye strain) with cassis (blackcurrants). If a healthy effect is expected, it is recommended in using supplements to check the amount of ingredients.

Examples of products with cassis/blackcurrant, available in Japan retail outlets are shown in picture and detailed as follows:

A Katjes

Blackcurrant candy using 5% flesh of cassis (blackcurrant) Country of origin Germany

B Lejay Cassis sweet liqueur

C Baker Hall

Concentrated Blackcurrant fruit juice drink with 40% cassis fruit juice content. Dilute and drink with 4-6 times water.

D London fruit and herb company

Blackcurrant leaf tea containing dried fruit juice.

E Kokubou Jam

Using cassis fruit only gathered in Aomori with no added color or additives.

F Cassis polyphenol extract supplement

G Suntory "cocktail Bar"

Cocktail with vodka base with cassis liqueur and lemon fruit juice

H Cassis-I-ex

Supplement

I Eye cassis

Supplement

J New Tree Bitter chocolate Cassis

K Black Candy

Candy with 10% cassis fruit juice, no sugar