

# Tsubaki

Camellia Japonica Seed Extract Powder  
Camellia Japonica Seed Extract CD-25

- ☐ Sustainable raw material made from pomace
- ☐ Blood flow improvement effect
- ☐ Skin moisturizing effect
- ☐ Anti-glycation effect



QRコードで簡単アクセス



## Birth story



**MOTTAINAI (Too good to waste) ...**  
**Respecting resources and their value while also reducing waste.**

Its origins derive from two words—mottai (importance or sanctity) and nai (lack of something).

The main production area for BNH's Camellia japonica seed extract is Toshima, located in the Izu Islands in Tokyo. Toshima is a small island with a circumference of about 8 km, and there is almost no flat land which is surrounded by sheer cliffs, and 80% of the island is covered with camellias. It is famous for producing camellia oil.

The production of camellia oil supports the island's industry, but there was no way to make use of the lees left when the camellia oil was squeezed, and large amounts of it were thrown away as industrial waste.

BHN start researching to make use of these pomace and "Camellia japonica seed extract" was born.



## Sustainable raw material - Birth of Camellia japonica seed extract

It is attracting attention as a sustainable raw material that gives new value to things that would otherwise be thrown away. Camellia japonica seed extract reduces industrial waste and provides a new source of income for camellia farmers. It is a raw material that can meet requests for manufacturing environmentally friendly product that are useful for regional revitalization.





## Blood flow improvement effect

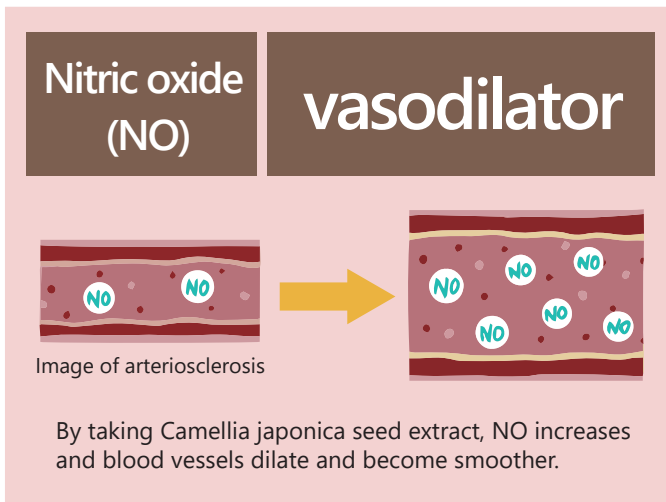
Camellia japonica seed extract approaches blood circulation and improves cold extremities.



### Camellia japonica seed extract increases NO production

To improve blood circulation, it is necessary to increase nitric oxide (NO), which is produced by vascular endothelial cells and it can widen blood vessels and encourage blood to flow smoothly.

It has been confirmed that Camellia japonica seed extract increases NO production.



Coldness improvement is the key to good health

#### Physical symptoms

Stiff shoulder  
Feeling of fatigue  
Sleeping disorder  
Constipation  
Discomfort  
Back pain  
Headache etc.

#### Psychological symptoms

Depression  
Irritability etc.

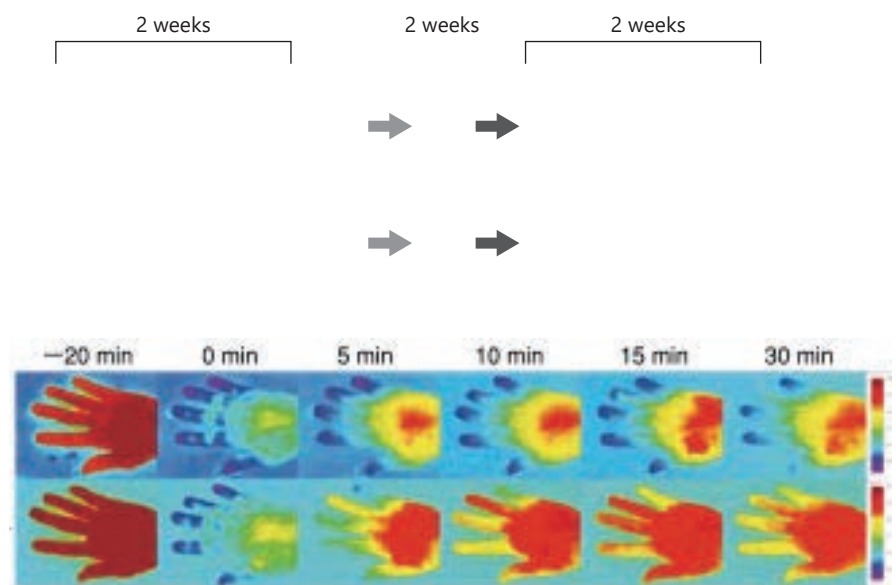
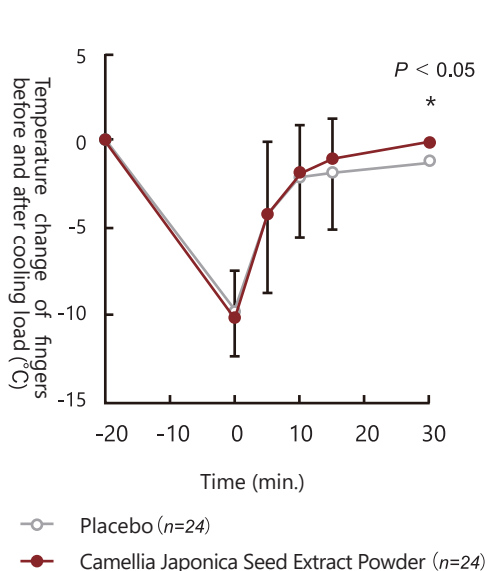
❧ Coldness ❧

Subjects: 24 men and women aged 20-64 years.

Sample intake: Taking placebo or Camellia Japonica Seed Extract Powder (Contains min. 9mg of Camellia saponin B<sub>2</sub>) 300mg/ day.

Evaluation: Performed on a timeline as in the figure below. In addition, the evaluation was performed by cooling with water at 15 °C for 1 minute, and then measuring the temperature of 0, 5, 10, 15, and 30 minutes.

Result: The temperature of the hands and fingers of Camellia Japonica Seed Extract Powder group recovered quickly, and a significant recovery was confirmed after 30 minutes compared to the placebo group. (Mechanism of action: Camellia Japonica Seed Extract Powder increases NO production in vascular endothelial cells, expands blood vessels, and has a thermal effect by improving blood flow)





## Promote skin-beautifying ingredients by activating skin cells

Camellia japonica seed extract supports the production of skin-beautifying ingredients such as collagen and hyaluronic acid which produce in cells by activating the activity of skin cells (fibroblasts). It has a beauty effect.



### Skin moisturizing effect confirmed in human clinical trial

Camellia japonica seed extract increases skin moisture content and can be expected to improve skin moisture.

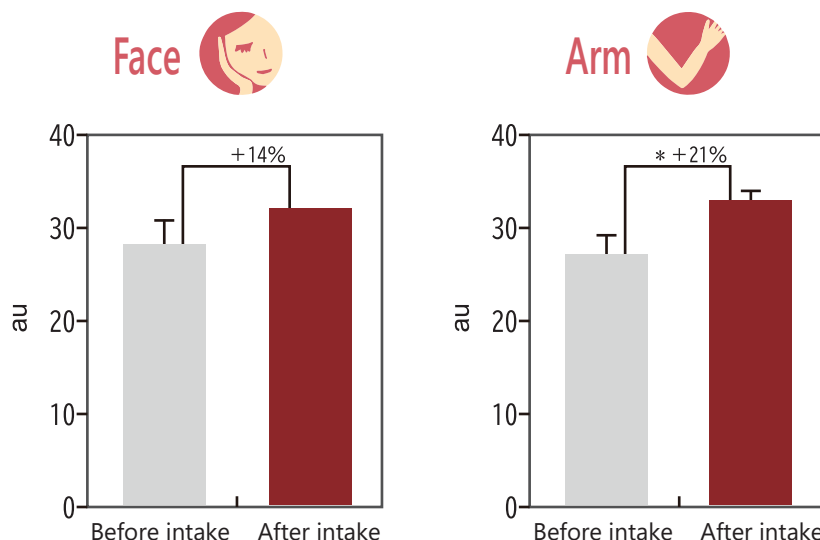
Subjects: Subject: 13 Japanese adult men and women (23~61 years old)

Evaluation: Take Camellia Japonica Seed Extract CD-25 at 200mg/day for 8 weeks (mid-February to mid-April 2017), and the face (intersection of the outer corner of the eyes and the tip of the nose) and upper arm (5 cm above the joint) before and after intake. The moisture content was measured.

Result: 8 out of 13 subjects increased the amount of water in their faces, with an average increase of about 14% compared to before consumption.

The water content in the arms increased in 10 out of 13 subjects, with an average increase of about 21% compared to before taking the supplement, and a significant difference was also confirmed.

#### Changes in skin moisture content

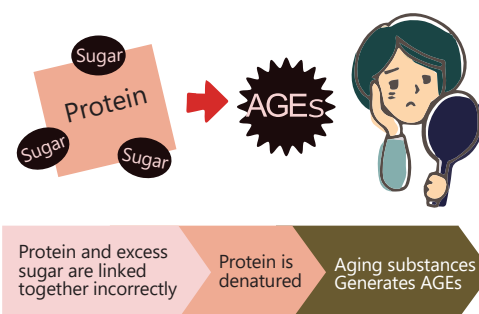


## As a countermeasure for glycation that causes the body to "burn"

Camellia japonica seed extract has been confirmed anti-glycation effects and various beauty effects, and shown to be effective against glycation, which is one of the causes of wrinkles and dullness. It suppresses glycation which is said to cause body burn, and keeps younger looking skin.

### Mechanism of glycation that "burns" the body

Glycation is when proteins and excess sugar combine abnormally in the body due to body heat, causing the proteins to denature and deteriorate, producing aging substances (bad substances) called AGEs (protein glycation end products). Because it is caused by body heat, glycation is described as "burning the body," and is known to be a factor that accelerates aging.



### Anti-glycation effect confirmed in human clinical trial

Subject : 13 Japanese adult men and women (23~61 years old)

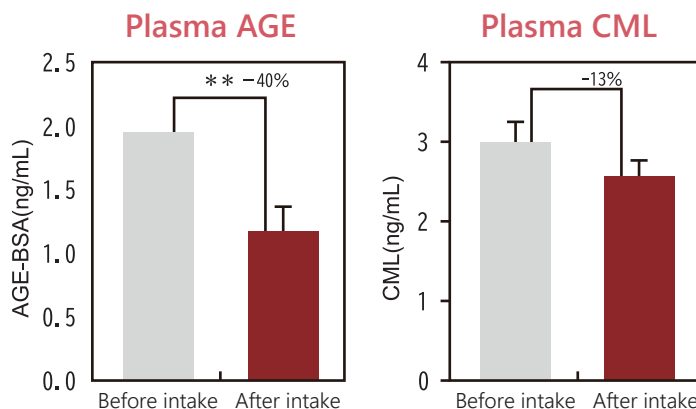
Sample intake: Camellia Japonica Seed Extract CD-25 200 mg/day

Test period: 8 weeks (February – April, 2017)

Evaluation: Plasma AGEs and CML concentration (Glycation marker; measured by ELISA)

Result: Plasma AGE concentration decreased in 12 out of 13 subjects (average: 40%), and a significant difference was confirmed compared to before intake. Plasma CML concentration decreased in 10 out of 13 subjects (average: 13%).

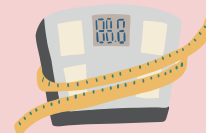
#### Change in concentration





## Weight loss effect

Camellia japonica seed extract has been confirmed to have anti-obesity effects. It has been confirmed that it suppresses fat accumulation and promotes its decomposition, and can be expected to reduce excess fat in the body, have a weight loss effect, and suppress metabolic syndrome.



We have confirmed the effect of suppressing weight gain in mice.

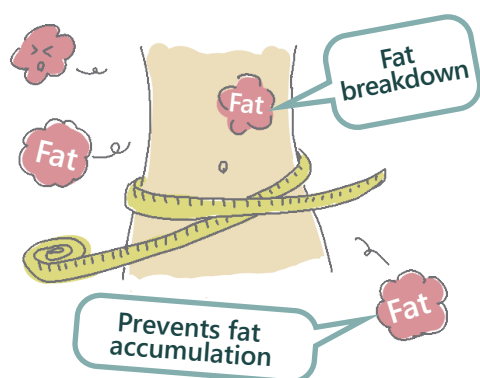
8-week of weight loss test was conducted in the following three groups.

NF : Normal fat group

HF : High-fat group

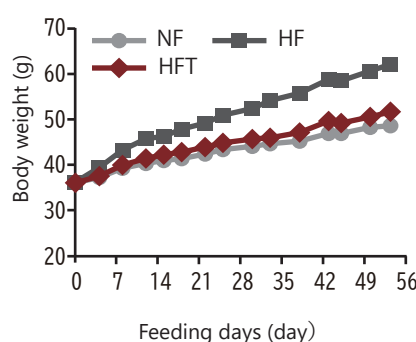
HFT : High-fat + Camellia Japonica Seed Extract group

By taking Camellia japonica seed extract, weight gain was significantly suppressed compared to High-fat group. It has been confirmed that it not only suppresses weight gain, but also suppresses visceral fat accumulation, improves blood cholesterol levels, and suppresses fat accumulation in the liver.



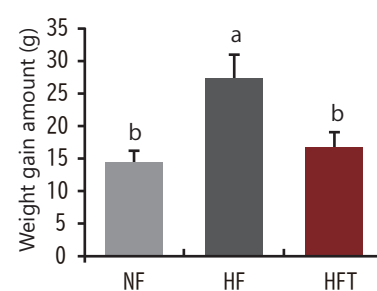
※Image

Weight gain growth charts



Weight gain amount

(Mean value  $\pm$  standard error)



※Significant difference between different alphabets

### < PRODUCT SPECIFICATION >

#### Camellia Japonica Seed Extract Powder

TEST	SPECIFICATIONS
Appearance	light brawn to brawn powder
Moisture	max. 7%
Camellia saponin B <sub>2</sub>	min. 3%
Heavy metals (as Pb)	max. 20ppm
Arsenic (as AS <sub>2</sub> O <sub>3</sub> )	max. 2ppm
Total plate count	max. 1,000cfu/g
Coliforms	negative
Recommended dosage	100~300mg/day
Shelf life	4years after manufacture (unopened)

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Heavy metals (as Pb)	max. 20ppm
Arsenic (as AS <sub>2</sub> O <sub>3</sub> )	max. 2ppm
Total plate count	max. 1,000cfu/g
Coliforms	negative
Recommended dosage	100~450mg/day
Shelf life	3years after manufacture (unopened)

