

# HEALTH PROFESSIONALS TOOLKIT





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Dear health professional,

We share your passion for improving public health and admire all your hard work to help Canadians make healthier choices. We want to support your efforts and help make your life a little easier by empowering you with the latest *Panax quinquefolius* ginseng (Canadian ginseng) research and resources.

You see, it was our passion for health and wellness that fueled the creation of this educational toolkit. While ginseng is a mainstream item in many Asian countries - and has been for centuries - it has yet to be adopted by Canadians. We'd like to change that by creating demand for *Panax quinquefolius* ginseng here at home, and that starts by educating Canadians on the many proven health benefits.

We know ginseng can provide many benefits to Canadians in a number of ways, including:

- **Relief from stress and anxiety**
- **Supporting cardiovascular health**
- **Regulation of blood sugar levels**
- **Supporting a healthy immune system**
- **Increasing cognitive function and energy levels**
- **Raising Chi (a term meaning energy flow in Traditional Chinese Medicine)**
- **Antioxidative, anti-inflammatory, and antibacterial properties**

But consumers still struggle with how to make healthier choices and are looking for easy solutions that don't involve a whole lot of compromise. We hope to partner with you to be an advocate for *Panax quinquefolius* ginseng and show consumers how they can focus on their health journey by taking small steps to include ginseng. This might include supplements, teas, and coffee, or adding powdered or fresh roots to recipes.

We're here to support you in your efforts by providing you with this toolkit for starters and are available beyond the toolkit to answer questions and provide consultation and training on how you can get Ontario-grown ginseng into the hands of Canadians.

We'd love to continue the conversation with you and find out how we can support you in introducing ginseng to your clients.

In the meantime, visit our website, [ginsengontario.ca](http://ginsengontario.ca). We look forward to working with you.

*Rebecca Coates*

Executive Director  
Ontario Ginseng Growers Association (OGGA)



# GINSENG 101







## What is Ginseng?

*Panax quinquefolius* ginseng (also known as Canadian ginseng or North American ginseng) is a root commonly used as a supplement in herbal medicine, is native to Canada, and is one of our oldest trades. The ginseng plant is a leafy green crop that grows to about a foot in height and produces bright red berries and a fleshy tap root. The root is generally around two to three inches in length and its colour ranges from pale yellow to brown.

## How it's Used

For centuries, ginseng has been used to support health and vitality. Ginseng has been a part of Traditional Chinese Medicine for over 2,000 years. It is highly sought after for its medicinal properties by both the Indigenous and the Chinese culture. Canadian ginseng has long been revered as the miracle “man-root” and is believed to be good for the body as a whole.

Ginseng is found in a variety of product forms but is typically used as:



Dried root  
(whole or slices)



Powdered root



Powered extracts  
(in capsules)



Tonic

## History of Usage

There are several varieties of ginseng, however, Canadian and Asian are the most popular, but differ in their chemical composition and each appears to have distinct biological effects.

- In Asia, from a traditional medicine point of view, these two types of ginseng are thought to be complementary. The Chinese perceive Canadian ginseng to be more yin – meaning it is used to reduce ‘heat’ in the body. In comparison, Asian ginseng is thought to be more yang – meaning it is used to raise ‘heat’ in the body.
- In North America, Indigenous tribes, such as the Menominee hunters, chewed the root and used their medicinal, herbaceous breath to lure deer, while the Pawnee used it in combination with other substances as a love charm.





# Growing *Panax quinquefolius* Ginseng

## A Unique Growing Process

Canadian Ginseng (*Panax quinquefolius* ginseng) is a perennial crop that takes three to five years to develop after being planted as a seed. It requires moist, but well-drained soil, like the sandy soils found in southern Ontario. The crop will die if exposed to too much direct sunlight, as a result, growers construct canopies that shade 75-80% of the crops. These canopies are to mimic the forest-floor environment in which they were originally cultivated.

Ginseng growers plant the crop in raised beds to allow for proper drainage and air circulation. Several inches of straw is added to prevent frost damage in the winter, and to maintain optimal soil moisture and temperature in the summer. These growing techniques help keep disease at bay while maintaining root quality. Because of the techniques that the Ontario growers use and the geographically small area of production, the ginseng harvested is of consistently high quality.

After 4-5 years the ginseng is harvested. Both the bright red ginseng berries and the root are harvested, with the root being dried and stored in a climate-controlled environment to keep it in prime condition. Buyers visit farms to purchase ginseng and the majority is sent to Hong Kong and China where it is packaged as whole or sliced root or used within consumer products such as drinks and tea sachets.

After harvesting, ginseng cannot be grown on the same land due to a phenomenon known as “replant disease”. Soil fertility is usually improved by ginseng production due to the application of large amounts of organic matter and many crops can thrive after ginseng production.



### FUN FACT

It takes 3-5 years for ginseng to reach maturity for harvest.



## Regulations from Health Canada in the Growing Process

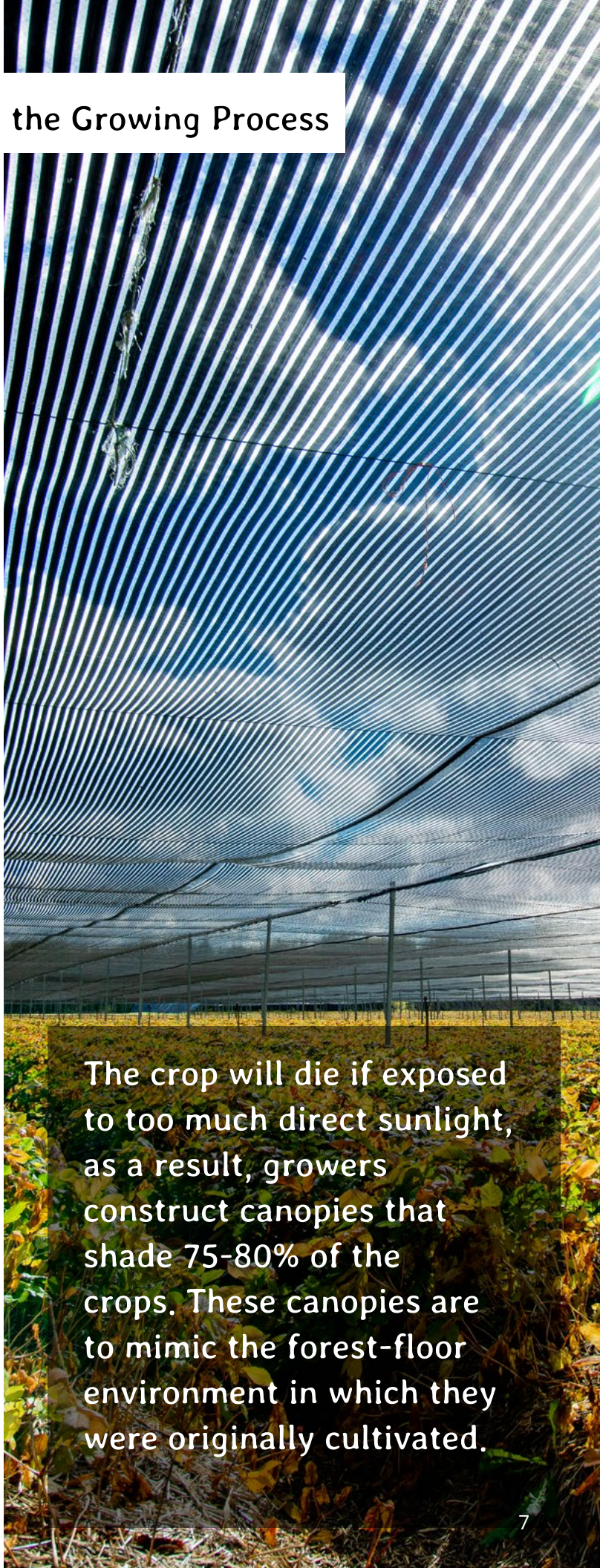
**How are ginseng growers implementing food safety, quality assurance, and traceability measures?**

Ontario Ginseng Growers Association (OGGA) has taken an active role in the development of the Good Agriculture Collection Practices (GACP) Program for growers. Approved by the Canadian Food Inspection Agency, the GACP Program provides tools to growers to assess on-farm food safety risks and to implement practices to eliminate them. It was built on HACCP (Hazard Analysis Critical Control Point) principles. The GACP Program offers buyers additional assurance that growers have planted and harvested their roots for what they were intended, and not cross-contaminated with other species. It provides product traceability and ensures proper management of pest control products.

Under the GACP Program, on-farm food safety practices are documented and producers are audited periodically by external auditors recognized by the Agency. Canadian ginseng growers are poised to respond to new food safety, quality assurance, and traceability demands of all international and domestic buyers.

**Is ginseng chemical and pesticide-free?**

All crop treatment products used in Canada must be approved by the Pest Management Regulatory Agency (PMRA) in Ottawa, a division of Health Canada. Canada has one of the most stringent product approval, residue monitoring, and control systems in the world. The products used in ginseng are approved by Health Canada and labels that outline their proper use are available on the [PMRA website in the database](#). Each label outlines the rate of application, frequency of application, the period of time that people should stay out of the field after application, the pre-harvest interval, and safety information. All crop treatments used in ginseng are also used on a wide range of fruit and vegetable crops in Canada. There are no products that are unique to ginseng production.



The crop will die if exposed to too much direct sunlight, as a result, growers construct canopies that shade 75-80% of the crops. These canopies are to mimic the forest-floor environment in which they were originally cultivated.



## About The Ontario Ginseng Growers Association

The Ontario Ginseng Growers Association (OGGA) is a non-profit organization that is dedicated to championing the ginseng industry in Ontario, Canada and representing the grower-members who produce its premium quality ginseng. The association supports marketing and research into the production and use of ginseng, health benefits, harvesting advances and new production methods. This research is carried out in collaboration with Canadian government partners including Agriculture and Agri-Food Canada (AFC), Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA), Fanshawe College, the University of Guelph, University of Toronto and the University of Western Ontario.

The association markets its premium Canadian ginseng to highlight its unique properties and explain to consumers the individual benefits of the ginseng grown in Ontario, Canada. OGGA harvests over 5 million pounds of ginseng annually, representing Ontario's largest field grown horticultural export crop.

## Meet Our Growers

Like most farmers in Canada, our ginseng growers are hard-working, dedicated folks whose land and experience in growing ginseng have often been passed down for generations.



### Carl Atkinson

C & R Atkinson Farms Limited  
St. Williams, Ontario

#### **How many acres are under your care?**

We manage about 70-75 acres of ginseng each year.

#### **How long have you been farming?**

My wife and I have been farming since 1987.

“We choose ginseng because it was a very lucrative crop at the time. Tobacco was having trouble and we were looking to diversify, friends and family were involved in it, so it was a good fit.”



## Marc Noorenberghe

Marc and Alyssa Noorenberghe  
Delhi, Ontario

### How many acres are under your care?

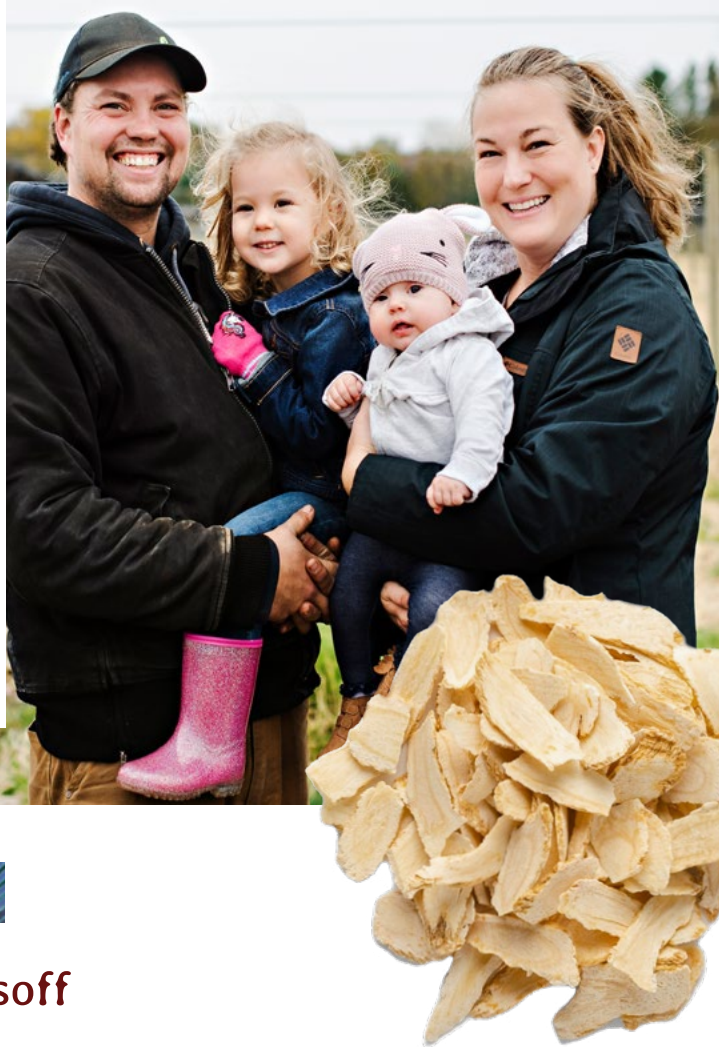
We have a little over 13 acres of ginseng that we grow ourselves. We also manage a few hundred acres of a variety of different grains and tobacco with my family.

### How long have you been farming?

I was born and raised on the farm, and have been farming my whole life. My wife and I started growing ginseng in 2015. Before that, I was actively farming with my family.

### What do you hope to see as the future of ginseng?

I look forward to the future of ginseng in Ontario. I'm very proud to be a part of the Ontario Ginseng Growers Association. I think it's very important that we continue to educate locals, not just in Ontario, but across the country, on what ginseng is and what benefits it can provide.



## Tom Csoff

Gunther's Sweet Corn  
Walsingham, Ontario

### How long have you been farming?

I'm a fourth-generation farmer and my family has farmed here since 1931. I've been farming since 2011.

### Why did you choose ginseng?

Ginseng is an interesting crop. We have very sandy soil here in Walsingham and we don't get a ton of rain – ideal growing conditions for ginseng. We also chose it because it's a nice rotationary crop. It's something we could do on a small scale and still be successful.

### Do you or your family consume ginseng?

I do. I take ginseng capsules regularly. My family has tried it on occasion — it depends on the product.

To learn more about our hardworking ginseng growers, visit our website:  
[ginsengontario.com/about-ontario-growers](http://ginsengontario.com/about-ontario-growers)



# Why Canadian Ginseng is Best

Canada is a global leader in ginseng exports, with 90% of ginseng produced being exported. Ontario is currently the largest producer in the world of Canadian ginseng.





The clean air, water, and the native soils in southwestern Ontario help to ensure the high quality of Ontario's ginseng. Ontario-grown ginseng is considered by the majority of people to be the most potent and powerful of all ginseng varieties, closely mimicking all the sought-after properties of wild ginseng.

We are proud to say that ginseng grown in the fertile soil of Ontario, Canada is far superior quality than ginseng grown elsewhere, and here are a few reasons why:

## Ginseng is Native to Canada

Canadian Ginseng (*Panax quinquefolius*) grown in Ontario is of premium quality because it is native to our lands. A combination of the rich soils, clean water and specific climatic conditions, the strong colonial lines, the stringent government regulations, and the careful production practices of the growers create the inability for others to compete. These unique growing conditions or terroir create distinct flavours and properties that cannot be replicated in ginseng that is grown elsewhere.

## Production is Consistent

Ontario's ginseng harvest is always consistent because of the techniques used, the limited number of growers, and the small geographical area of production. Growers have also established high-quality and technologically advanced processing facilities for storage, drying, and washing. This consistency ensures Canadian ginseng's quality, aroma, and taste remain unmatched by *Panax quinquefolius* grown elsewhere in the world.

## Research Moves Us Forward

Ontario Ginseng Growers Association, in partnership with government and universities, undertake and fund vast amounts of research to further our knowledge, primarily focusing on health and wellness and improved production methods.

## We Focus on Growing Safely

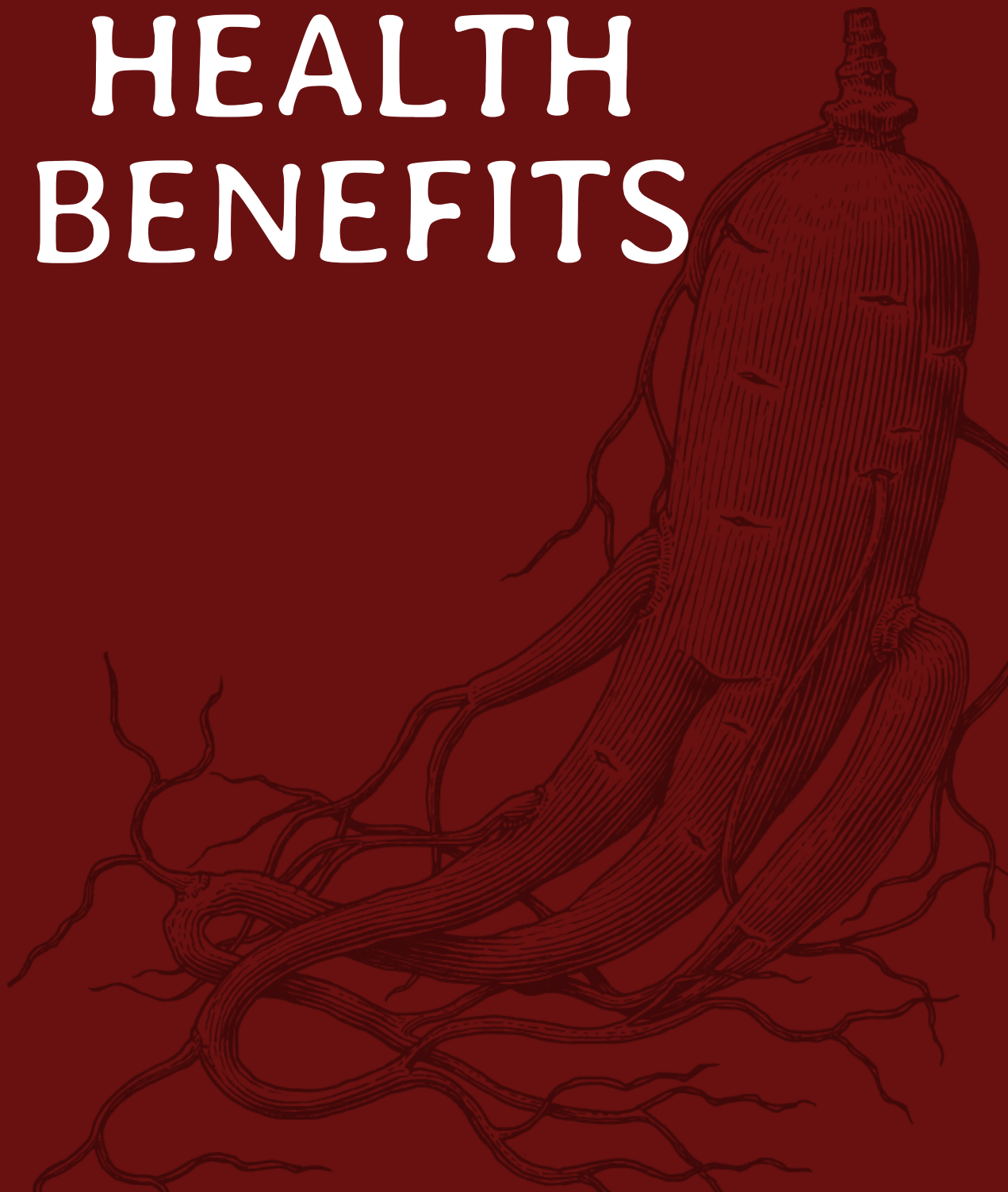
Ontario Ginseng Growers Association has taken an active part in the development of Good Agricultural Collection Practices (GACP) Program, which is approved by the Canadian Food Inspection Agency. Our industry's GACP Program provides tools to growers to assess on-farm food safety risks and implementation practices to eliminate them. It also provides product traceability and ensures proper management of pest control products, which are highly regulated with high standards as set by Health Canada.

**While ginseng can be grown in other parts of the world it will never match the one-of-a-kind taste or the quality of Canadian ginseng.**





# HEALTH BENEFITS

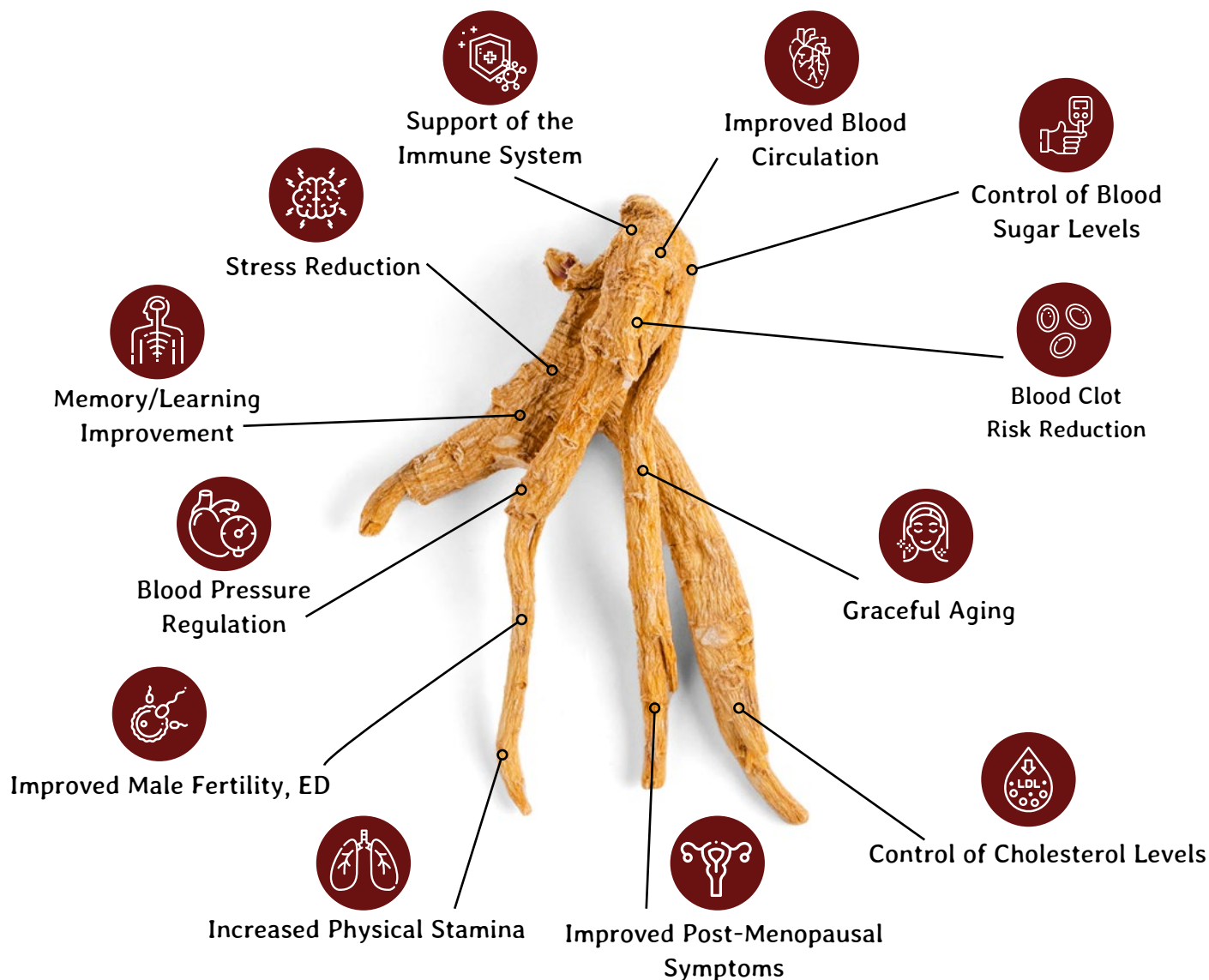




# Ginseng Health Benefits At-A-Glance

Indigenous and Chinese cultures have long praised Canadian ginseng as the miracle “man-root,” due to its man-like shape and belief that it is beneficial for every part of the human body.

Throughout history, this humble root has been highly regarded for its holistic health benefits. Ginseng contains an active compound called ginsenosides, and they have some incredibly powerful health benefits for your brain, body, and spirit, including:







# Ginseng and Your Health

## Control of Blood Sugar Levels

Controlling after-meal blood sugar levels is an important strategy for both diabetics and non-diabetics. Blood sugar spikes can affect your mood and energy levels, making you irritable and tired when levels start to crash. Consuming *Panax quinquefolius* ginseng before or during a meal may help lower and control blood sugar, which has a positive effect on mood and energy levels. A subsequent short-term [clinical trial](#), in which subjects with Type 2 diabetes received eight weeks of treatment with an extract of Canadian ginseng, while maintained on existing medications and a healthy diet, demonstrated significant reductions in glycosylated hemoglobin (HbA1c). When study subjects continued to take North American ginseng for an additional four months, HbA1c was further reduced.

## Acute Respiratory Illness Aid

Canadian ginseng may help in the prevention of acute respiratory illness and reduces the severity of colds and flu. Ginsenosides have anti-asthmatic effects through the relaxation of human bronchial smooth muscle by stimulating the release of nitrous oxide from airway epithelium.

## Reduces Stress and Anxiety

Maintaining healthy stress levels and control over anxiety are some of the most important factors to overall health. Whether your stress level is high or low, you may benefit from the gentle relaxing support of Canadian ginseng, which stimulates [GABA receptors](#) (nerve cells that receive the chemical messages that help to inhibit or reduce nerve impulses) and induces a calming effect on brain function and the body.

A study of 323 people who took a patented *Panax quinquefolius* ginseng extract showed them to have a 26% drop in the incidence, 56% reduction in recurrence, and 35% decline in the number of sick days due to colds and flu.

## Supports a Healthy Immune System

As an adaptogen - meaning it normalizes body functions - ginseng has medicinal potential in a variety of body systems and disorders, including supporting the immune response, which helps fight infections.

For centuries, ginseng has been used to support health and vitality. Scientific research is now providing preliminary evidence supporting its medicinal potential in a variety of body systems and disorders, including enhancing the immune response, which helps fight infections. Research shows that extracts of Canadian ginseng are effective in the treatment and prevention of colds and flu. A study of 323 people who took a patented *Panax quinquefolius* ginseng extract showed them to have a 26% drop in the incidence, 56% reduction in recurrence, and 35% decline in the number of sick days due to colds and flu. Individuals had a significant rise in natural killer cells as well as CD4/CD8 cell lines, which demonstrates enhanced viral immunity (Predy GN, 2005).

Two key studies compared Canadian ginseng with a placebo in randomized, double-blind studies. One of these trials evaluated Canadian ginseng in the prevention of acute respiratory illness in 198 elderly adults within an institutional setting. After 8-12 weeks of treatment with the ginseng extract, the seniors experienced an 89% reduction in the risk of developing cold or flu.

Most of these seniors had received flu vaccinations (90%) and the ginseng extract appeared to be safe and complementary.

Several laboratory studies have demonstrated the immune-enhancing effects of Canadian ginseng, including research identifying a protein isolated from the root that had antifungal action and anti-human immunodeficiency virus (HIV) activity.

## Management of Digestive Disorders

Canadian Ginseng was an important medicine for Indigenous peoples and has traditionally been used to treat a wide range of digestive disorders. Herbalists have used ginseng to treat indigestion and loss of appetite.

Recent studies in laboratories have demonstrated the potential for ginseng in the relief of chemotherapy-induced nausea and vomiting. An extract of Canadian ginseng berries reduced nausea and vomiting associated with the chemotherapeutic agent, cisplatin, and resulted in significant recovery of food intake. The antioxidant action of ginseng is thought to play a role in counteracting the symptoms of nausea and vomiting.



Ginseng Stir Fry



Ginseng Smoothie



A study of children diagnosed with attention-deficit hyperactivity disorder showed significant improvement in behaviour, mood, and concentration after using Canadian ginseng and Ginkgo biloba (Lyon MR, 2001).

## May Benefit Brain Function and the Nervous System

Canadian ginseng could help improve cognitive functions like memory, mood, and behaviour. Several clinical trials showed that the ginseng extract enhanced memory in 18-64-year-old adults. The primary active ingredient in Canadian ginseng is a group of chemicals called ginsenosides. These ginsenosides have many pharmacological actions, including various actions on the central nervous system.

Two clinical trials, with 101 participants, showed that the ginseng extract enhances memory in both normal, young (20 to 24 years of age) and older adults (46 to 64 years of age). The second trial demonstrated that the product enhanced visual working memory and other neurological measures in 64 patients with schizophrenia. Laboratory studies have also demonstrated improved learning and memory, nerve cell protection, and promotion of nerve cell growth.

Ginsenosides have both a stimulatory and inhibitory impact on the central nervous system (CNS). This is why ginseng is described as an adaptogen as it can have two opposing effects on the body. The effect of ginsenosides Rg1 and Rb1 were investigated with both enhancing the CNS, although the latter had a weaker impact and sometimes even an inhibitory effect ([Chang Y, 2008](#)). Studies have also revealed that Rb1 partially prevents memory deficits and that long-term ginseng consumption could prevent memory loss by reducing oxidative stress and up-regulating the plasticity-related proteins in the hippocampus ([Zhao H, 2009](#)).

Ginseng Banh Mi

The American Herbal Products Association (AHPA) Safety Rating for Canadian Ginseng is Class 1: herbs that can be safely consumed when used appropriately. The American Botanical Council Clinical Guide to Herbs (2003) reports that there are no known contraindications or drug interactions for North American Ginseng.

### Keeps Your Cardiovascular System Healthy

Laboratory studies suggest that Canadian ginseng has antioxidant properties that protect heart muscle cells from free radical damage.

Extracts of Ontario-grown ginseng have also been shown to protect against endothelial cell damage. A number of studies have looked at Canadian ginseng's role in the prevention and treatment of cardiovascular disease. The ginsenosides found in high concentrations in Canadian ginseng, including Rb1, Rb2, and Rb3 have valuable antioxidant effects capable of preventing LDL oxidation and therefore minimizing vascular endothelial damage ([Zhou W, 2004](#)).

An early observational study ([Stavro PM, Woo M, Heim TF, Leiter LA, Vuksan V., 2005](#)) was the first to specifically investigate the effect of Canadian ginseng on blood pressure, in individuals with hypertension. The results suggested that, in the short-term, Ontario-grown ginseng had a neutral effect overall: it neither raised nor lowered blood pressure. This study helps to address some of the controversies about the use of ginseng in individuals with high blood pressure since previous studies have reported elevations of blood pressure in some people who use ginseng frequently.

The study also shows that Canadian ginseng could be a treatment for obesity as it lowers cholesterol, triglycerides, and LDL and raises HDL levels. In addition, it shows that Canadian ginseng can induce nitric oxide, which is a vasodilator and relaxant, block calcium channels, prevent platelet adhesion, and catecholamine-induced blood pressure rises.

### Do All Ginseng Products Carry the Same Benefits?

If you have tried ginseng and seen no results, it's possible that you're taking a low-quality ginseng supplement in too small doses.

But isn't all ginseng created equal? In short, no.

If you're going to take ginseng, do your research to ensure you're getting it from a qualified retailer or certified sellers displaying the Ontario Ginseng Growers Association "Running Root" seal. By using the "Running Root" seal, retailers guarantee their products contain only 100% Canadian Ginseng (*Panax quinquefolius*) that is sourced from native Ontario soils.

### How Does Traditional & Western Medicine View Ginseng?

Ginseng has been a part of Traditional Chinese Medicine for over 2,000 years, being used to support overall health and vitality. Revered as the miracle "man-root", its nourishing "yin" reduces heat in the body while also bringing wealth, health, longevity, happiness, and success to those who consume.

While Indigenous Peoples, including the Ojibwe, the Muscogee, the Meskwaki, and the Iroquois, used Canadian ginseng to treat a wide array of health issues including respiratory conditions, fever, pain relief, digestive issues, aphrodisiac, and as a panacea, a "universal remedy for children and adults."

Western medicine is now awakening to the value of ginseng to address a variety of ailments and improve mental & physical stamina and performance as well as promote longevity.





# When to Take Ginseng and Dosing

Traditional Chinese medicine has used ginseng for centuries for its energy restorative and healing properties.

Although there are many types of ginseng, Canadian ginseng (*Panax quinquefolius*) and Asian ginseng (*Panax ginseng*) are the most popular and widely available.

If you are looking to incorporate Canadian ginseng into your diet, it is safe and incredibly easy to do — here's what you need to know about consuming this super root.

## What Type of Ginseng is Best

Canadian and Asian ginseng differ in their active compounds and effects on the body. Generally, Canadian ginseng is said to be a relaxing agent, whereas Asian ginseng is believed to be more energizing.

Ginseng contains an active compound called ginsenosides. The primary difference between Canadian ginseng and Asian ginseng is the level of active compound in each.

**1-2 grams of raw ginseng root or 200-400 mg of extract can be taken daily**







## How to Add Canadian Ginseng To Your Diet

Ginseng root can be consumed in many ways. A fresh root can be eaten raw or steamed lightly to soften it. Dried ginseng root can be found whole, sliced, or powdered. Ginseng root extract is also available as an oil, tablet, or capsule.

If you want to get creative in the kitchen, tea can be made by brewing it in water. Simply add sliced ginseng to hot water and let it steep for a few minutes. Also, ginseng can be added to your favourite recipes such as soups and stir-fries.

## Is Canadian Ginseng Safe?

Consuming ginseng is generally regarded as safe and should not have any severe side effects according to many studies.

Ginseng is safe for people with diabetes, but due to its ability to lower blood sugar, diabetics who are taking medications should monitor their blood sugar levels closely when ingesting this herb. Ginseng products are not recommended for children or women who are pregnant or breastfeeding.

The use of ginseng over an extended period could diminish its effects on the body. For best results, take ginseng every 2–3 weeks with a one or two-week break in between.

A well-known herbal supplement, *Panax quinquefolius* ginseng has been used traditionally for centuries in Chinese medicine. Ginseng is recognized for its anti-inflammatory effects and antioxidant properties. In addition, ginseng may support the immune system, improve brain function, fight fatigue, and much more!

If you are looking to improve a health condition or simply boost your general well-being, ginseng certainly deserves your attention.

## Quantity of Canadian Ginseng

The amount you should take depends on the condition you want to improve. According to Chinese Pharmacopeia, 3–6 grams of raw ginseng root or 200–400 mg of extract can be taken daily. It is best practice to start things off slow and gradually increase the dosage as your body adjusts.

It's always advised to consult with a health care professional before consuming supplements.







# Special Precautions and Warnings

A well-known herbal supplement, *Panax quinquefolius* ginseng has been used traditionally for centuries in Chinese medicine. While there are no side effects associated with using dosages of 100-3,000 mg daily as noted in the The American Botanical Council Clinical Guide to Herbs (2003), there are some people who should exercise caution and consult a health professional before consuming ginseng.

## Breastfeeding and Pregnant Women

North American ginseng should be consumed with caution during pregnancy, especially during the first trimester, and during lactation.

## Children

Regular use of North American ginseng is not recommended for children under the age of 12, please consult a healthcare provider.

However, in [one study](#), a randomized, double-blind dose-finding 3-arm trial (2 dosing schedules of *Panax quinquefolius* ginseng extract with 1 placebo control)

during the winter months in children 3 to 12 years of age has found that standard doses of ginseng were well tolerated and merit additional evaluation with regard to treatment of pediatric upper respiratory tract infection.

## Individuals Fasting for Surgery

Stop taking *Panax quinquefolius* ginseng at least 7 days prior to surgery.







## Known Drug Interactions

**Medications for diabetes.** *Panax quinquefolius* ginseng may lower blood sugar levels, so it could interfere with the effectiveness of prescription drugs for diabetes, including insulin and oral hypoglycemic agents, such as metformin (Glucophage). {[source: 1995 Oct;18\(10\):1373-5. doi: 10.2337/diacare.18.10.1373.](#)}

**Blood-thinning medications.** *Panax quinquefolius* ginseng might decrease the effectiveness of warfarin (Coumadin), a blood-thinning medication. {[source: 2004 Jul 6;141\(1\):23-7. doi: 10.7326/0003-4819-141-1-200407060-00011](#)}

**Antipsychotic Medications.** *Panax quinquefolius* ginseng may increase the effects of medications used to treat psychiatric disorders such as schizophrenia and bipolar disorder. {[source: 2002 Jan;105\(1\):76-7; discussion 77-8](#)}

**Stimulants.** Ginseng may increase the stimulant effect and side effects of some medications taken for attention deficit hyperactivity disorder (ADHD), including amphetamine and dextroamphetamine (Adderall) and methylphenidate (Concerta, Ritalin). {[source: J Psychiatry Neurosci 2001;26\(3\):221-8](#)}





# Phytochemistry of Ginseng

## Ginsenosides

Both Canadian ginseng (*Panax quinquefolius*) and *Panax* ginseng (Asian) contain triterpene saponins (steroid-like alkaloids with sugar side-chains) known as ginsenosides, as well as polysaccharides, peptides, peptidoglycans, phenolics, fatty acids, vitamins and minerals. As ginseng root ages, the total ginsenoside content generally increases to about 4 to 11% by weight after four years.

There have been over 30 different ginsenosides identified and used to differentiate between Asian and Canadian ginseng and generally they fall into two major groups. The Protopanaxdiol (PPD) ginsenosides (Rb1, Rb2, Re, and Rd) and the Protopanaxatriol (PPT) ginsenosides (Re, Rg1, and Rf) which account for over 90% the triterpene saponins found in the ginseng root.

About 55% of the total ginsenoside content of *Panax quinquefolius* is Rb1 and no Rf has been found either in

the authentic wild or cultivated type. The major ginsenoside in *Panax* ginseng is Rg1. Overall *Panax quinquefolius* has a higher PPD:PPT ginsenoside ratio compared to *Panax* ginseng. ([Jackson CC, 2004](#))

One of the key distinguishing features that differentiate Asian and Canadian ginseng is the ratio of the Rb1/Rg1 ginsenosides, which is far higher in Canadian ginseng than in Asian ginseng. Approximately 55% of the ginsenoside content of Canadian ginseng is Rb1. ([Jackson CC, 2004](#))

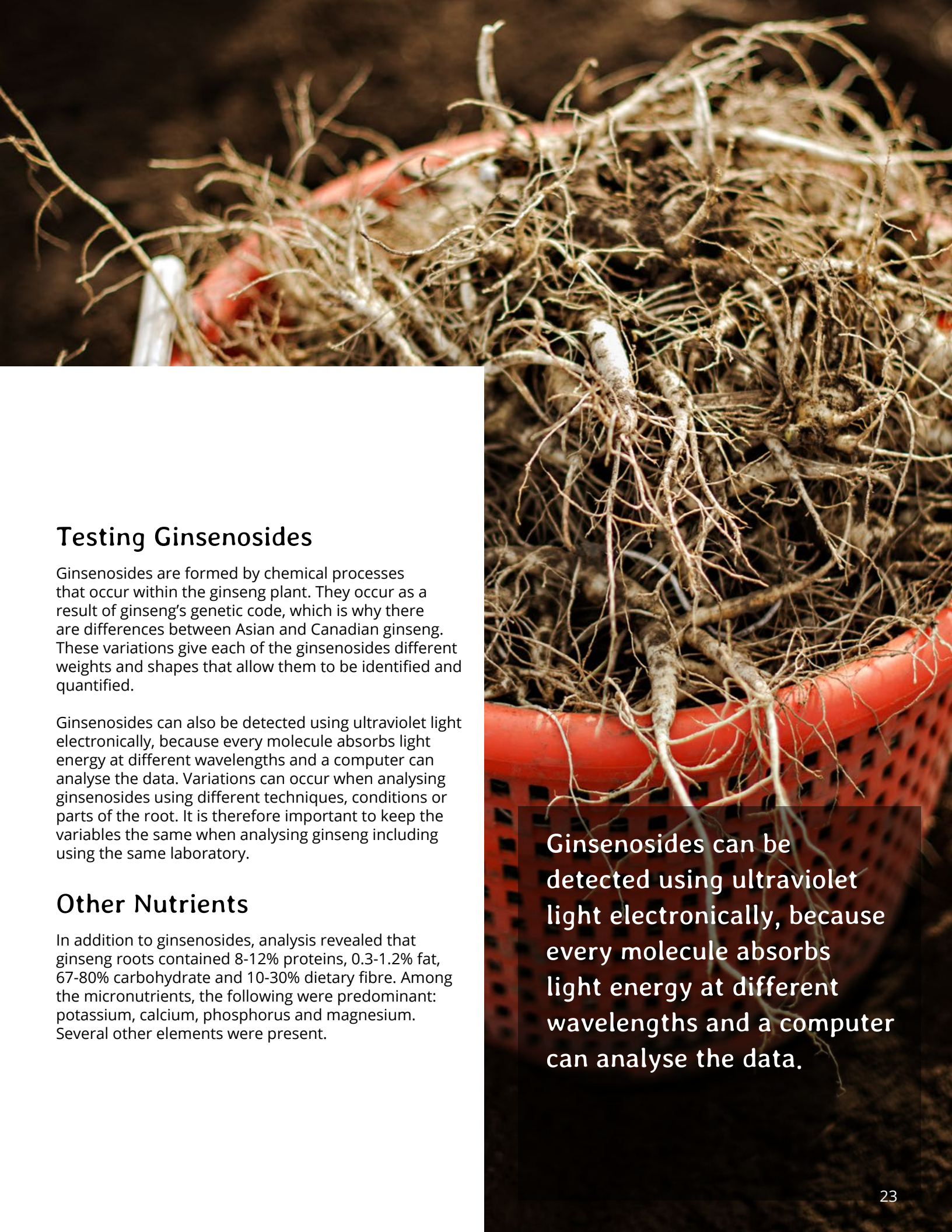
Canadian ginseng also contains polysaccharides (both soluble/insoluble), peptides, peptidoglycans (non-triterpene saponins), phenolics (polyacetylenic alcohols, flavonoids), fatty acids, vitamins, and minerals. ([Washida D, 2003](#))



## FUN FACT

As ginseng root ages, the total ginsenoside content generally increases to about 4 to 11% by weight after four years.





## Testing Ginsenosides

Ginsenosides are formed by chemical processes that occur within the ginseng plant. They occur as a result of ginseng's genetic code, which is why there are differences between Asian and Canadian ginseng. These variations give each of the ginsenosides different weights and shapes that allow them to be identified and quantified.

Ginsenosides can also be detected using ultraviolet light electronically, because every molecule absorbs light energy at different wavelengths and a computer can analyse the data. Variations can occur when analysing ginsenosides using different techniques, conditions or parts of the root. It is therefore important to keep the variables the same when analysing ginseng including using the same laboratory.

## Other Nutrients

In addition to ginsenosides, analysis revealed that ginseng roots contained 8-12% proteins, 0.3-1.2% fat, 67-80% carbohydrate and 10-30% dietary fibre. Among the micronutrients, the following were predominant: potassium, calcium, phosphorus and magnesium. Several other elements were present.

**Ginsenosides can be detected using ultraviolet light electronically, because every molecule absorbs light energy at different wavelengths and a computer can analyse the data.**

# Studies of Note

## Medical Study Summaries & Abstracts

### Respiratory

- McElhaney JE, Gravenstein S, Cole SK, et al. A placebo-controlled trial of a proprietary extract of North American ginseng (CVT-E002) to prevent acute respiratory illness in institutionalized older adults. *J Am Geriatr Soc* 2004 Jan;52(1) : 13-9.

### Immune System

- McElhaney JE, Gravenstein S, Cole SK, et al. A placebo-controlled trial of a proprietary extract of North American ginseng (CVT-E002) to prevent acute respiratory illness in institutionalized older adults. *J Am Geriatr Soc* 2004 Jan;52(1) : 13-9.

### Circulatory

- Shao ZH, Xie JT, Vanden Hoek, et al. Antioxidant effects of North American ginseng berry in cardiomyocytes exposed to acute oxidant stress. *Biochem Acta* 2004 Feb;1670(3):165-71
- Stavro PM, Woo M, Heim TF, Leiter LA, Vuksan V. North American ginseng exerts a neutral effect on blood pressure in individuals with hypertension. *Hypertension* 2005; 46:1-6

### Nervous System

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- Wang M, Guilbert LJ, Ling L, et al. A proprietary extract from North American ginseng (*Panax quinquefolium*). Enhances IL-2 and IFN-gamma productions in murine spleen cells induced by on-A. *Int Immunopharmacol* 2004;4 (2):311-5.
- Wang HX, Ng TB. Quinquenginsin, a novel protein with anti-human immunodeficiency virus, antifungal, ribonuclease and cell-free translation-inhibitory activities from North American ginseng roots. *Biochem Biophys Res Commun* 2000;269(1):203-8

### Endocrine

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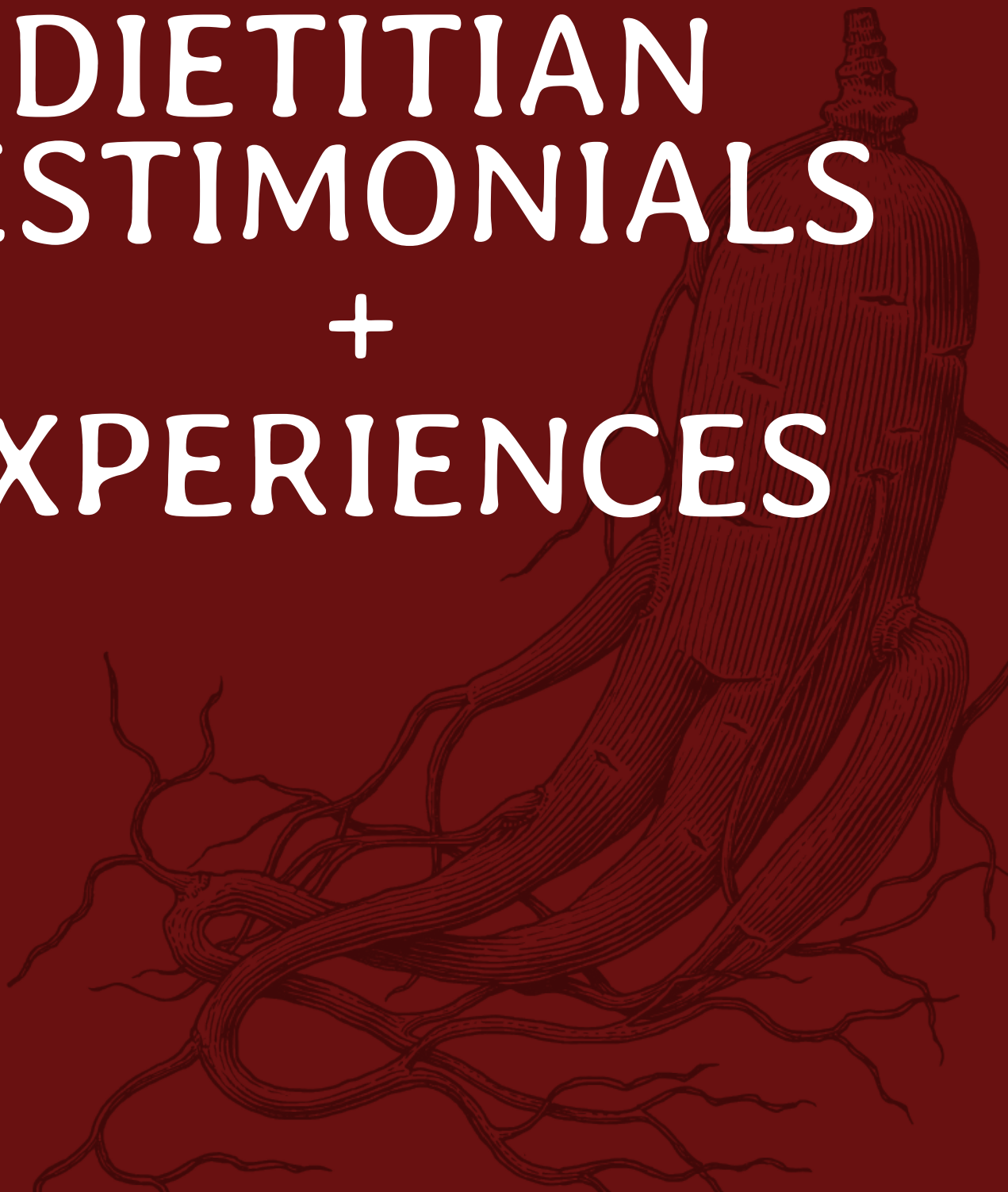




Ginseng Soup



# DIETITIAN TESTIMONIALS + EXPERIENCES







Doug Cook, RDN

# Food is Medicine

Long before I became a dietitian, I had excitement about the role that food might have in promoting optimal health beyond just meeting my basic nutritional requirements. I was fascinated by the idea that food could reduce chronic disease or improve aspects of overall well-being including the notion that ‘food is medicine’.

Fast forward to today and research has investigated and identified nearly countless ways in which food, and its constituents, can do just that.

**While other foods have had their share of the spotlight, most Canadians are not familiar with the evidence supporting ginseng, but that needs to change.**

Most would be surprised to know that *Panax quinquefolius*, a.k.a. North American Ginseng is native to Canada and has been used by Indigenous people for centuries.

Ginseng can be consumed in several ways including eating the fresh or dried root, powdered root, powdered extracts (supplements) or tonics (tinctures).

Including ginseng in your diet is easy. You can add it to soups, stews, stir fry, use it to make teas, add it to smoothies, oatmeal, marinades or use in recipes such as energy bars/balls or chia pudding.

**There are several documented health benefits of ginseng. Two that stood out for me are ginseng’s ability to support the immune system and GABA receptor stimulation.**

Extracts of ginseng have been shown to **reduce the risk of respiratory illness**, reduce the number of sick days due to colds and the flu, and reduce the risk for recurrence. Some trials suggest that ginseng’s active phytochemicals, called ginsenosides, may **support memory in both young and older adults** and may **reduce the effects of stress and anxiety** by stimulating GABA receptors.

If you haven’t considered recommending ginseng, you may want to. **As part of a comprehensive approach to improving the health of your clients, ginseng has a lot of promise.** Given the many ways clients could incorporate ginseng into their diet or supplement regimen, it’s easy recommendation.

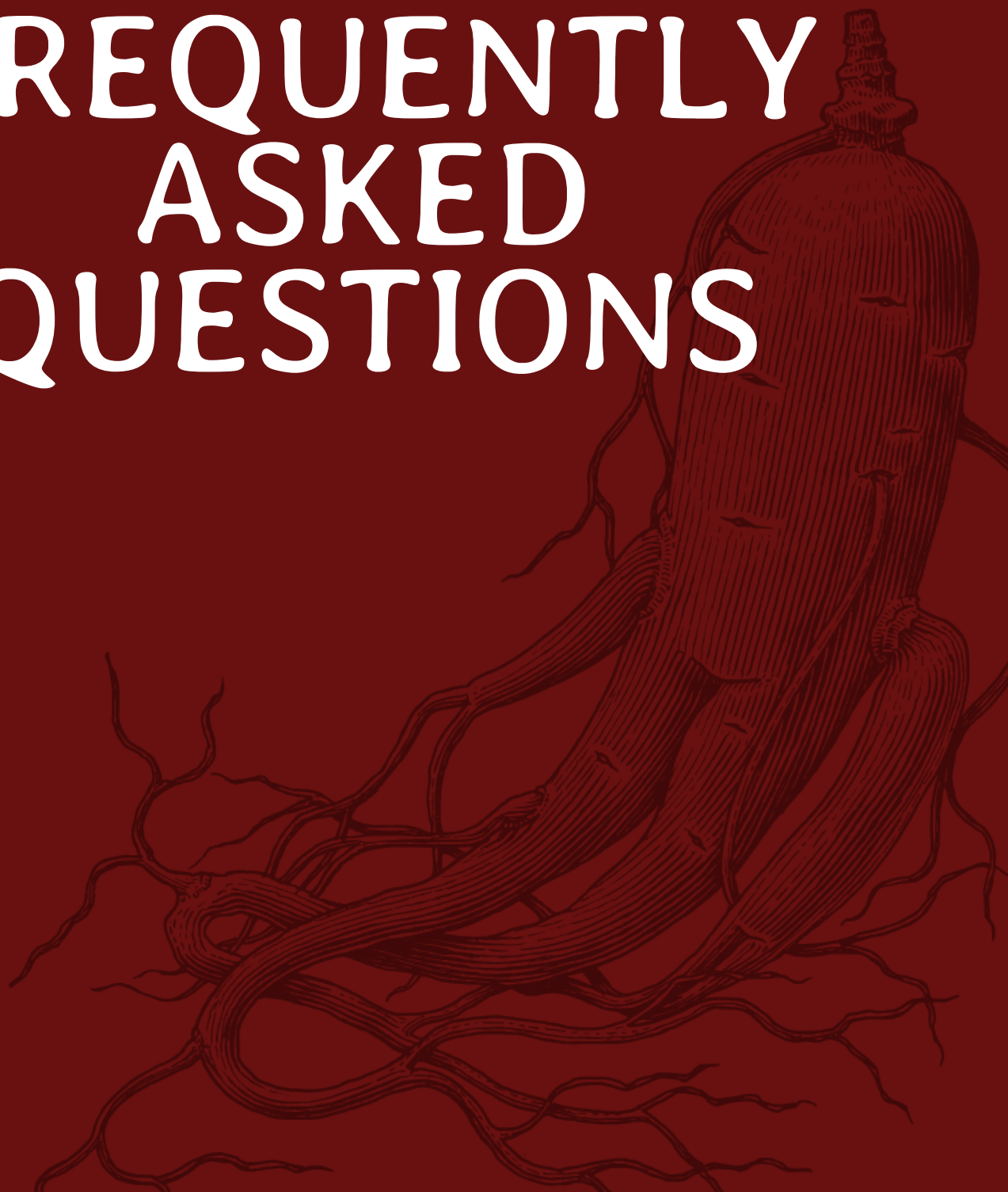
Ontario ginseng is recognized as one of the **best in the world when it comes to both quality and consistency of quality**. And as the larger producer of North American ginseng, Ontario ginseng is a quality product that you can confidently use, both in your practice and for your own personal health.

**There are several documented health benefits of ginseng. Two that stood out for me are ginseng’s ability to support the immune system and GABA receptor stimulation.**

Doug Cook is a Registered Dietitian Nutritionist with over 22 years of experience in a wide range of settings, serving diverse needs. He has a mixed bag with respect to his practice ranging from clinical nutrition, to writing for the public, patients and other health professionals, program development, consulting, private practice and has had a variety of experience in media including TV, radio and print and is co-author of several books. He’s has a longstanding interest in the role that functional foods and supplements have on health and well-being

**Website: [www.dougcookrd.com](http://www.dougcookrd.com) | IG: @dougcookrd**

# FREQUENTLY ASKED QUESTIONS





1

## What are the types of ginseng?

There are two main species in the ginseng genus which belong to the Araliaceae family of plants. *Panax quinquefolius* is one species and is commonly referred to as Canadian, North American, Western, Ontario or American ginseng, and *Panax ginseng* C.A. Meyer (after the botanist who named the plant) and is commonly referred to as Asian, Chinese, China White or Korean ginseng. If the ginseng root is boiled and/or steamed, it is referred to as Red ginseng (as opposed to white).

Some other species that belong to the ginseng genus are *Panax japonicus* (Japanese Ginseng), *Panax pseudoginseng* (Himalayan ginseng), *Panax notoginseng* (Sanqui ginseng), *Panax trifolius* (Dwarf ginseng), and *Panax vietnamensis* (Vietnamese ginseng). However, these species are not readily available for commercial trade or have enough clinical studies to support health benefits.

Moreover, while there is scientific data on Ashwagandha or Indian ginseng (*Withania somnifera*), Brazilian or South American ginseng (*Pfaffia paniculata*) and Siberian ginseng (*Eleutherococcus senticosus*) these do not belong to the ginseng genus and are therefore improperly named.

2

## Do all ginseng products carry the same benefits?

If you have tried ginseng and seen no results, it's possible that you're taking a low-quality ginseng supplement in too small doses. If you're going to take ginseng, do your research to ensure you're getting it from a qualified retailer or certified sellers displaying the Ontario Ginseng Growers Association "Running Root" seal. By using the "Running Root" seal, retailers guarantee their products contain only 100% Canadian ginseng (*Panax quinquefolius*) that is sourced from native Ontario soils.

3

## What type of ginseng is best for you?

Canadian and Asian ginseng differ in their active compounds and effects on the body. Generally, Canadian ginseng is said to be a relaxing agent, whereas Asian ginseng is believed to be more energizing. Ginseng contains an active compound called ginsenosides. The primary difference between Canadian ginseng and Asian ginseng is the level of active compound in each.

4

## Where can I buy Canadian ginseng?

If you are looking to purchase Canadian ginseng it's advised to purchase from a qualified ginseng retailer or certified seller who displays our "Running Root" seal on their products.

5

## What does ginseng taste like?

The flavour of ginseng root is slightly bitter and earthy, with a touch of sweetness. Some also describe it as highly aromatic with a sweet flavour and earthy undertones.

# 6

## Is ginseng easy to add to your diet?

Yes! You can consume ginseng root in many ways. A fresh root can be eaten raw or steamed lightly to soften it. Dried ginseng root can be found whole, sliced or powdered. Ginseng root extract is also available as an oil, tablet, or capsule. If you want to get creative in the kitchen, tea can be made by brewing it in water. Simply add sliced ginseng to hot water and let it steep for a few minutes. Also, ginseng can be added to your favourite recipes such as soups and stir-fries.

# 7

## Is Canadian ginseng safe?

Consuming ginseng is generally regarded as safe and should not have any severe side effects according to many studies. Ginseng is safe for people with diabetes, but due to its ability to lower blood sugar, diabetics who are taking medications should monitor their blood sugar levels closely when ingesting this herb.

# 8

## Who should not take ginseng?

Ginseng products are not recommended for children or women who are pregnant or breastfeeding. Diabetics who are taking medications should monitor their blood sugar levels closely when ingesting this herb.

# 9

## When should you take ginseng?

Antioxidants are beneficial regardless of age or health status, but ginseng treatment may be especially beneficial to those suffering from stress, mental fuzziness, weak immune systems, or sexual dysfunction.

# 10

## How much ginseng should I take?

The amount you should take depends on the condition you want to improve. According to Chinese Pharmacopeia, 3-6 grams of raw ginseng root or 200-400 mg of extract can be taken daily. It is best practice to start things off slow and gradually increase the dosage as your body adjusts.





# 11

## How do I store fresh ginseng root?

There is a difference in storing fresh versus dried ginseng, much like storing fresh and dried herbs. When you buy fresh groceries, you will want to keep them at a cool temperature and away from sunlight and oxygen to prevent spoiling. Placing the ginseng root in an airtight container and then into the refrigerator will prevent it from growing mold and preserve its freshness. Ideally, you should store ginseng in a glass jar since the seal is more reliably airtight than plastic bags or containers. This way, your fresh ginseng will usually last you a few weeks at peak quality.

# 12

## Are there side effects?

While there are no side effects associated with using dosages of 100-3,000 mg daily as noted in the The American Botanical Council Clinical Guide to Herbs (2003), there are some people who should exercise caution and consult a health professional before consuming ginseng.

# 13

## How do I store dried ginseng?

You may choose to buy dried ginseng if you do not use it as often and want a product that has a longer shelf life than fresh ginseng. Luckily, when stored properly, dried ginseng can last anywhere from three to five years. Similar to fresh ginseng, you will need to keep dried ginseng away from excess sunlight and oxygen to keep its compounds in check. Unlike fresh, however, dried ginseng does not need to be refrigerated and should be kept in a tightly sealed container in a cool, dry place such as a pantry or cabinet for optimum freshness. Ginseng can be a great way to enhance your overall health and buying the highest quality will make certain you receive those benefits.

# 14

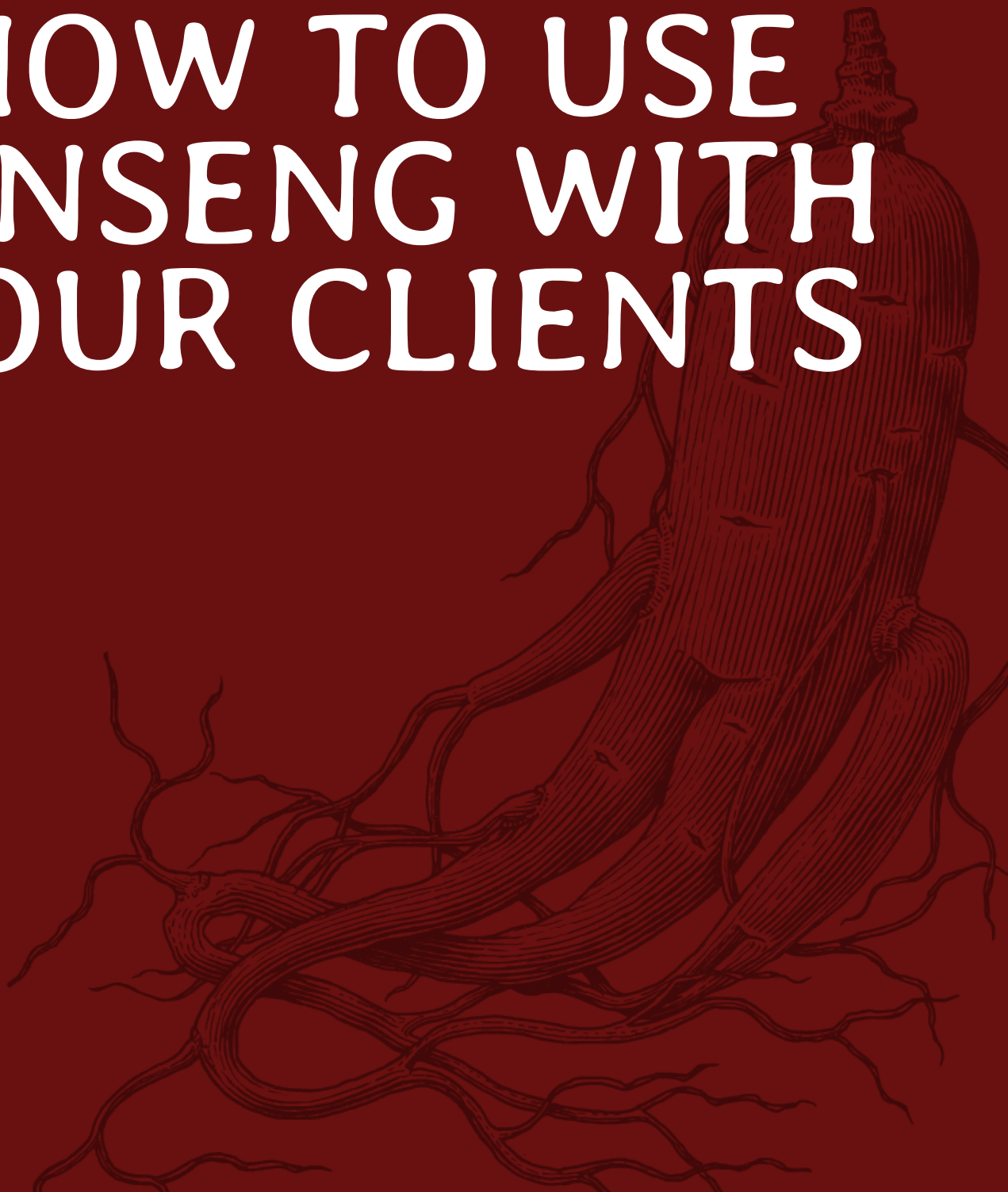
## Can I travel with ginseng?

It is legal to transport cultivated Canadian ginseng out of Canada, including into Mainland China, Hong Kong and Taiwan. According to the Convention on International Trade in Endangered Species (CITES), if you are transporting less than 4.5 kilograms of cultivated North American ginseng root out of Canada, a CITES export permit administered by the Canadian Wildlife Service must be attached to each package.

- If you are transporting more than 4.5 kilograms of cultivated North American ginseng root out of Canada, a commercial CITES export permit is required.
- North American ginseng products such as powder, pills, extracts, tonics, tea and confectionery are exempt and do not require any CITES export permits.
- Authorized Canadian retailers provide necessary documents at purchase for customers, including CITES export permits and commercial CITES export permits



# HOW TO USE GINSENG WITH YOUR CLIENTS







## How to Use Ginseng with Your Clients

For centuries, ginseng has been used to support overall health and vitality. Canadian ginseng was first used to relieve stress, calm the body and strengthen internal organs. As well as its continued use as a medicinal remedy, the popularity of ginseng is growing amongst younger generations as they have begun to appreciate the health and wellness benefits ginseng provides.

Canadian ginseng can be used as whole root, extract, sliced or powdered depending on consumer preference or end-use.

The flavour of ginseng root is slightly bitter and earthy, with a touch of sweetness. Some also describe it as highly aromatic with a sweet flavour and earthy undertones. Added to your favourite recipe, or brewed into an immune-boosting tea, you'll come to love the flavour and many health benefits of this popular root.

**Fresh ginseng**, although less likely to find, can be eaten raw or steamed to soften slightly. You can add 1-2 grams (approx 0.5-1 tsp) of grated or finely diced of fresh ginseng to [stir fry](#), [soups](#) and [stews](#).

**Dried ginseng**, comes either whole or sliced, can also be grated and added to your favourite meal. Add 1-2 slices of ginseng into your morning coffee beans and grind them together. Add sliced ginseng to tea infusers and steep to make a [hot](#) or [cold tea](#), simply add a sweetener of your choice such as

honey. Lightly crushed dried ginseng can be added to soups, [marinades](#), [overnight oats](#), and [power balls](#).

**Powdered ginseng** is slightly more versatile than whole or sliced. Add ½-1 tsp of powdered ginseng can to [honey](#), baked goods, [desserts](#), [oatmeal](#), [smoothies](#), and more.

**Ginseng capsules** are the most convenient way to get a consistent dose of ginseng daily. Available in 250 mg to 500 mg capsules, it's recommended to take 1 capsule daily.




No matter how you choose to get your daily dose the Ontario Ginseng Growers Association (OGGA) is proud to promote qualified retailers who display our "Running Root" seal on their products.

Retailers bearing the "Running Root" seal on consumer products are authorizing their products as 100% North American Ginseng (*Panax quinquefolius*) grown in native Ontario soils.



# WHAT IS GINSENG



*Panax quinquefolius* ginseng (Canadian ginseng or North American Ginseng) is a root commonly used as a supplement in herbal medicine, is native to Canada and is one of our oldest trades. The ginseng plant is a leafy green crop that grows to about a foot in height and produces bright red berries and a fleshy tap root. The root is generally around two to three inches in length and its colour ranges from pale yellow to brown.



## Why Choose Canadian Ginseng from Ontario?

The clean air, water, and the native soils in southwestern Ontario help to ensure the high quality of Ontario's ginseng. Ontario-grown ginseng is considered by the majority of people to be the most potent and powerful of all ginseng varieties, closely mimicking all the sought-after properties of wild ginseng.

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**We are proud to say that ginseng grown in the fertile soil of Ontario, Canada is far superior quality than ginseng grown elsewhere.**

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## How it is Used

For centuries, ginseng has been used to support health and vitality. Ginseng has been a part of Traditional Chinese Medicine for over 2,000 years. It is highly sought after for its medicinal properties by both the Indigenous and the Chinese cultures, ginseng has long been revered as the miracle "man-root" and is believed to be good for the body as a whole.



## How much ginseng should you take?

The amount you should take depends on the condition you want to improve. As a general rule, 1–2 grams of raw ginseng root or 200–400 mg of extract can be taken daily. It is best practice to start things off slow and gradually increase the dosage as your body adjusts.

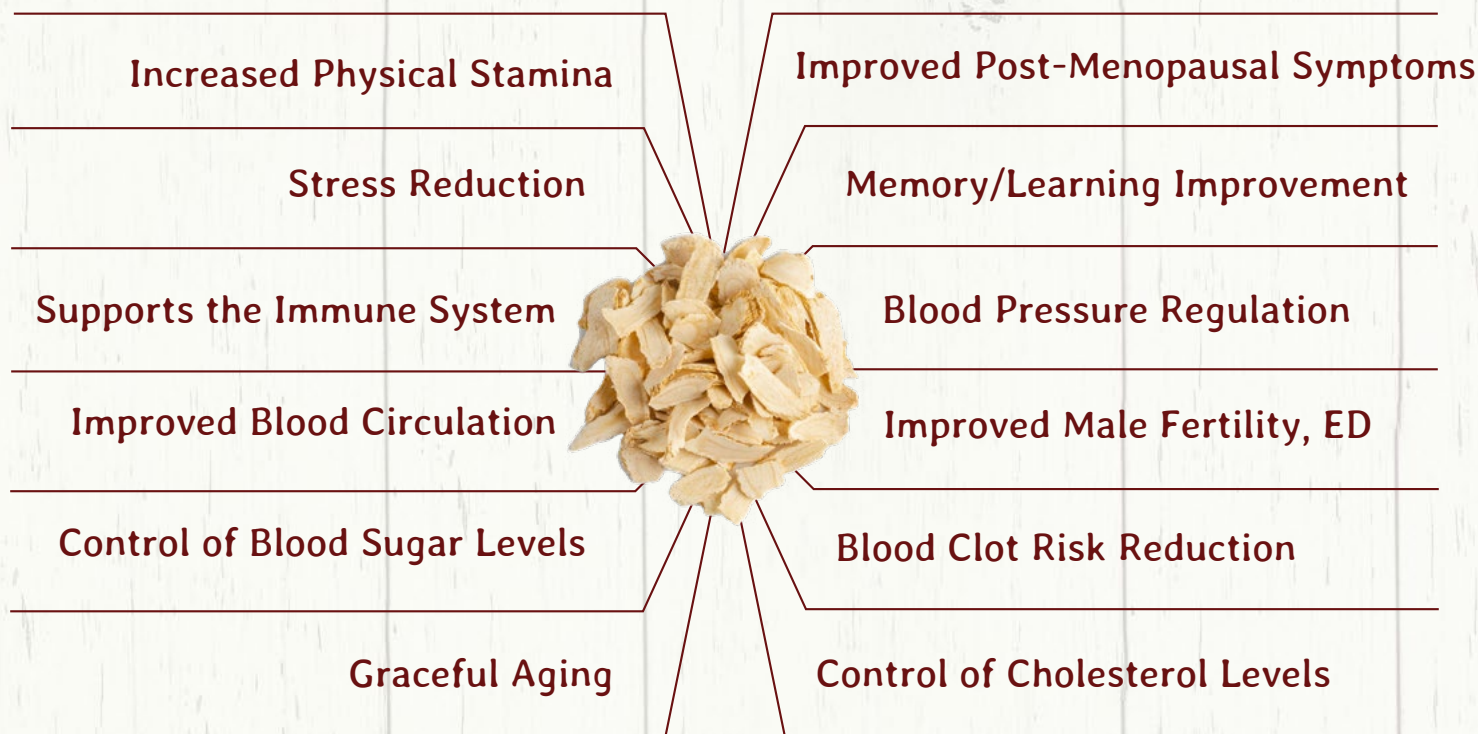
**TAKE 1-2 GRAMS RAW GINSENG OR  
200-400 MG EXTRACT**





## Ginseng Health Benefits At-A-Glance

Throughout history, this humble root has been highly regarded for its holistic health benefits. Ginseng contains an active compound called ginsenosides, and they have some incredibly powerful health benefits for your brain, body, and spirit, which may contain:



Ginseng is found in a variety of product forms but is typically used as:



Dried root  
(whole or slices)



Powdered root



Powered extracts  
(in capsules)



Tonic

## WHAT DOES GINSENG TASTE LIKE?

The flavour of ginseng root is slightly bitter and earthy, with a touch of sweetness. Some also describe it as highly aromatic with a sweet flavour and earthy undertones.

## GET COOKING WITH GINSENG



Ginseng Smoothie



Ginseng Chai Tea Rice Pudding



Ginseng Tea



Ginseng Power Balls

### Where can I buy Canadian ginseng?

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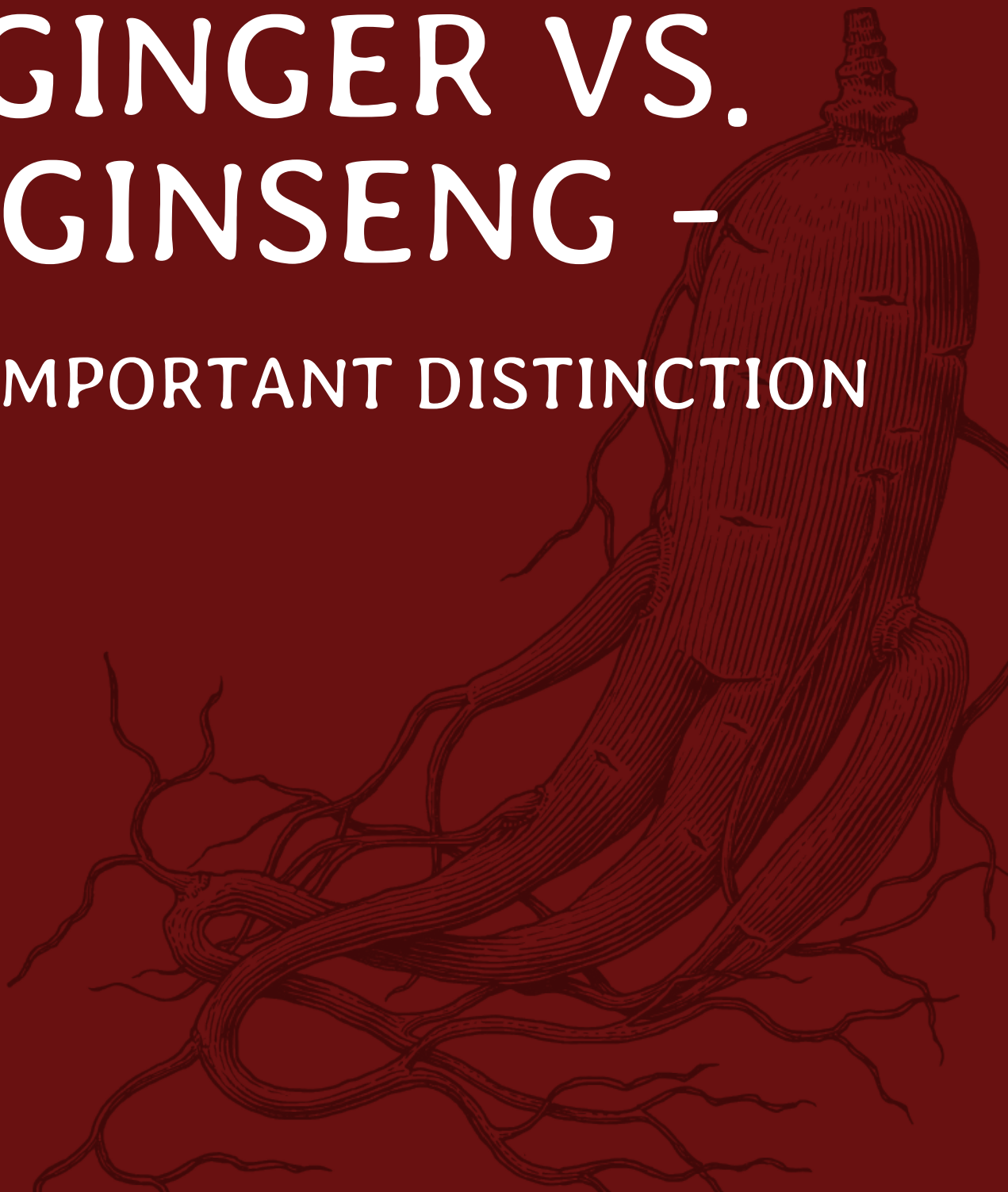






Ginseng Chia Pudding

# GINGER VS. GINSENG - AN IMPORTANT DISTINCTION







## Ginger vs. Ginseng

They both start with “gin”, they’re both plants, and they even look alike — it’s easy to see why many people get ginseng and ginger mixed up! Read on to learn more about the differences between ginseng and ginger, and the many health benefits of *Panax quinquefolius*.

## How is Ginger Different from Ginseng?

Ginger is also a fleshy root plant — but that is where a lot of the similarities end. As a medicinal plant, ginger is commonly used to treat digestive issues, especially nausea and vomiting.

Ginger has a warm, spicy flavour, and contains vitamins A, B, C, and E, making it a popular choice in many kitchens. Ginseng, on the other hand, has a very mild, earthy flavour, making it an easy addition to many of your favourite recipes.



## What is Ginseng?

Ginseng on the other hand, is a plant with thick, fleshy roots. It is a common element of traditional Chinese medicine and has been used for centuries to help promote health. It is also a key component of traditional Indigenous medicine in many First Nations cultures.

There are two main common types of ginseng: *Panax quinquefolius* (Canadian ginseng) and *Panax ginseng* (Asian ginseng). Ginseng contains an active compound called ginsenosides. The primary difference between Canadian ginseng and Asian ginseng is the level of active compounds in each. Canadian ginseng is used more for its relaxing properties, whereas Asian ginseng typically has a more stimulating or energizing effect.

## The Health Benefits of Ginseng

Ginseng has some incredibly powerful health benefits for your brain, body, and spirit, which may include:



### Acute Respiratory Illness Aid.

Over the past 20 years, Western researchers have been studying the effects of ginseng as a medicinal plant. One study showed that Canadian ginseng helped reduce the risk of developing cold & flu in seniors.



### Keeping your cardiovascular system healthy.

Recent animal studies suggest that ginseng can help lower cholesterol levels. As an antioxidant, Canadian ginseng also helps reduce heart damage caused by free radicals.



### Blood sugar management.

Long-term trials have shown that using an extract of Canadian ginseng resulted in a reduction in patients' HbA1c levels.



## Ontario Ginseng Growers Association

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