



Natural Facts

**Immune
Primer 101**

**Autism:
The Role of the Microbiome**

**Medicinal Mushrooms:
The Importance of Extraction Methods**

**Therapeutic Algae
Supplements**

*Maple Syrup
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Editor's Letter



Being native from Quebec, the month of March represents for me not only the arrival of springtime, but also the return of our famous maple syrup-inspired dishes. The history of maple products dates back well before the arrival of French settlers in Quebec. In fact, the sap was discovered by Native Americans, who used it in cooking or drinking, since it contained energetic and nutritional values.

I love maple syrup! However, our sugar shack meals are not usually synonymous with healthy dishes. Unfortunately, the traditional menu—mostly comprised of fat, sugar, and salt—far exceeds the maximum recommended daily intake. It is for this reason that the Culinary Corner of this issue focuses on a much healthier version of maple syrup-inspired recipes!

“Till April’s dead, change not a thread!” Even though this winter was not a cold one across the country, the change in season and fluctuations in temperature often bring on bouts of cold, flu, and other infections. We therefore discuss specific ways to help you be better equipped to start spring off on the right foot.

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Keep Your Guard Up!

March has arrived, and whether it came in like a lamb or a lion, don't drop your guard when it comes to protecting yourself from colds and flu. Various strains of the common cold affect North Americans from September to April, which makes them virtually a year-round concern. However, according to statistics compiled by the Centres for Disease Control and Prevention (CDC), peak flu activity strikes in the months of December, January, and February. Yet, in the 32 years of recording reported cases of the flu between 1982 and 2014, March topped the list five of those years. There is still no cure for the common cold or flu, or viruses in general; however, there are natural strategies to protect from infection and reduce viral activity.

Oregano oil is renowned for its broad range of therapeutic benefits, with its antibacterial, antiviral, and antiparasitic properties being among them. It contains a mosaic of volatile oils, with carvacrol being responsible for the "lion's share" of its benefits. **The action of carvacrol is simple: it causes the viral capsid (protein shell) of the virus to expand and disintegrate.** This leaves viral RNA (messenger molecules

containing genetic information) vulnerable to weaken the control a virus has on its host cells. In turn, this protects you from or shortens the duration of a virus-driven infection.

New Roots Herbal's **WildOregano C93** is sourced from the rare species *Origanum minutiflorum*. We have visited the rugged mountain range where it grows; our lab certifies the identity of this superior species. It grows only in the wild at altitudes exceeding 1,500 metres, rendering it free of commercial fertilizers and pesticides. We purchase over 60% of the world's crop, with the balance being exported to Germany and Norway. Our industry-leading carvacrol potency as a percentage of volatile oils then affords us the luxury of blending it with enough certified organic olive oil for a tempered taste with a smooth finish.

Set sail with **WildOregano C93** for protection from colds and flu "en route" to a healthy and prosperous spring season.



Immune Primer 101

Prevention of Cold and Flu

by Philip Rouchotas, MSc, ND

Change of seasons often leads to a spike in colds, flus, and other upper respiratory tract infections. Research shows that nutrients such as vitamin D and probiotics can help bolster immune defenses, while agents such as echinacea, oil of oregano, and green tea help kill off the invading microorganisms. Appropriate use of these natural health products can help keep your family healthy this spring.

The environment of fluctuating temperatures that can accompany early spring months can make for a disastrous combination from the perspective of infection control. The first mild spring day results in lighter clothing, followed by drastic dips in temperatures. Constant exposure to a number of pathogens from kids in school and parents in the workplace create an environment of constant immune stress. Add to this the combination of spring temperature shifts and spring allergens in the air, the result is often symptoms that may seem of epidemic proportions. Thankfully, there are reliable natural strategies to help bolster the immune system in preparation for this time of year.

Prevention: Strengthening the Immune System

Two basic but fundamental nutritional supplements for the immune system need to be a probiotic and vitamin D. Probiotics are thought to interact with the immune cells present in the gut, which creates a cascade effect on the rest of the immune system throughout the body.

Several controlled human trials have demonstrated that probiotics can decrease the incidence of common cold, as well as decreasing the severity and duration of symptoms in those who do become ill.^[1]

A study in children found that probiotics decreased the occurrence of the cold by 25% compared to placebo and decreased the number of school days lost to illness.^[2]

Vitamin D is an important supplement since Canadians are frequently found to have suboptimal or even deficient levels of vitamin D.^[3] Supplementation with vitamin D has been shown to reduce the incidence of the flu in school children by 42% when given at dosages of 1200 IU per day.^[4] You should have your vitamin D level tested by your naturopathic doctor or family physician in order to determine the most appropriate dose for you.

Anti-Infectives: Killing Invading “Bugs”

In addition to these foundational nutrients, a number of herbal agents can also improve the body’s ability to fight invaders. Oil of oregano contains potent

“Target vitamin D level for Canadians is 75 nmol/L.”

antimicrobial compounds such as thymol and carvacrol, which have antibacterial and antiviral activity against several microbial species including *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Candida albicans*, and others.^[5] Oregano has also demonstrated effects against antibiotic-resistant strains.^[6, 7]

Echinacea has been shown to prevent viral upper respiratory infections by strengthening the immune response. Echinacea increases the activity of immune cells including dendritic cells and decreases the secretion of inflammatory chemicals by the Influenza A virus.^[8, 9] In humans, echinacea use has been shown to decrease the overall number of illness episodes and decrease the number of episodes per child by approximately 50%; in addition, echinacea decreased the number of days of fever.^[10] A Lancet meta-analysis of 14 studies found that echinacea reduced the odds of developing the common cold by 58%.^[11]

Green tea is an emerging antiviral. Supplementation with 378 mg of green tea catechins during the winter months has been shown to reduce the incidence of the flu among healthcare workers.^[12] Another study has shown that green tea supplementation for three months reduced the number of days with cold and flu symptoms by 35%.^[13] Green tea was also shown to increase immune cell activity (T-cells).^[13]

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Shopping List for Great Eyesight



Preservation of healthy vision is like most other health concerns: we inherit genetic predispositions for illness and disease, yet there are plenty of lifestyle and dietary decisions we can choose for great health and longevity.

Better vision starts with your grocery list—let's stroll down the aisle together. Carrots top the list as an inexpensive antioxidant, rich in *beta*-carotene, that reduce the risk for macular degeneration and cataracts; sweet potatoes are also rich in *beta*-carotene and a great source of dietary fibre. Colourful bell peppers, broccoli, Brussels sprouts, and their cruciferous cousins are vitamin C-rich antioxidants that protect your precious vision. Lean turkey is abundant in zinc and naturally occurring niacin that provide protection from cataracts. Lutein- and zeaxanthin-rich spinach protect the macula to act as a natural sunscreen for protection from macular degeneration. Needless to say, salmon is an excellent source of omega-3s that improve arterial health for nutrient delivery, essential for healthy eyes.

We've also formulated a list dedicated for protection from vision loss: it's on the label of every bottle of New Roots Herbal **Forsight**. Our unique synergistic selection of antioxidants, vitamins, vision-specific

phytonutrients, minerals, and potency-validated nutraceuticals focus specifically on the maintenance of your vision, and protection from diseases that include macular degeneration and cataracts.

The botanical backbone of our formula stems from standardized extracts of lutein, zeaxanthin, and astaxanthin. These potent carotenoids strengthen the macula, which protects the retina from damaging ultraviolet light that can lead to macular degeneration.

Lycopene-rich tomato extract further safeguards eyesight from oxidative stress. A complex mosaic of dark-skinned berries delivers a minimum of 20% multianthocyanidins, potent antioxidants that protect the retina. Reduced glutathione and its precursor *alpha*-lipoic acid add specific antioxidants that protect the eyes from free radicals and help maintain healthy, balanced fluid levels within the eye.

Safe, bioavailable sources of zinc, copper, and selenium amplify antioxidant activity within the eye, improve microcirculation, and trigger enzyme activity

that protects cells respectively. A full spectrum of B vitamins protect and insulate delicate nerves integral for vision and the transmission of images for processing within the primary visual cortex of the brain. Vitamins C and E broaden the scope of antioxidant protection within **Forsight**.

The complementary action of two specific nutrients within *Ginkgo biloba*, flavonoid glycosides and terpene lactones, maximize delivery in the entire battery of nutrients within **Forsight**; clinical trials have shown an increase of blood flow of up to 23% within the ophthalmic artery resulting with supplementation of *Ginkgo biloba*.

See the light with **Forsight!**





A Hybrid Fuel for Body and Mind

The slogan on our label boasts “A healthy oil for quick mental and physical energy.” It delivers: **MCTEnergy** is a concentrated liquid supplement consisting of two energy-laden medium-chain triglycerides—with caprylic acid ($C_8H_{16}O_2$) comprising 55% of the blend and capric acid ($C_{10}H_{20}O_2$) an additional 44%. They’re both sustainably sourced from non-GMO coconut and palm kernel oils. These fatty acids are easily absorbed within the intestines, then metabolized for energy use up to eight times

faster than carbohydrates. They are not stored as fat, and do not require the body’s limited supply of L-carnitine for transport into cells to fuel cellular respiration. Furthermore, they don’t require bile salts and pancreatic enzymes for digestion.

MCTEnergy is a dynamic source of energy for endurance athletes, those of us trying to shed a few pounds, or for patients during chemotherapy, to name a few. When you consider the average human brain demands 20% of the body’s energy stores (based up basal metabolic rate) despite only making up 2% of its weight, **MCTEnergy** can even amp up your brainpower a notch or two.

With an energy quotient (EQ) of approximately 100 calories per tablespoon (15 ml) and neutral flavour, **MCTEnergy** can be easily incorporated into smoothies, custom sport beverages, baking, and even vinaigrettes to set the pace for your active lifestyle.





Autism

The Role of the Microbiome

by Michelle Hagel, BSc, ND

The human microbiome is defined as the full collection of genes of all the microbes in the human body and “consists of 10–100 trillion symbiotic microbial cells,” outnumbering the number of human cells by ten times. An individual’s genome is 99.9% identical to another human’s; however, their microbiomes will only show

10–20% similarity to one another. This illustrates that the microbiome is immensely important in making each individual different from one another. Majority of our microbiome exists, and is formed, in our gut.

The microbiome influences many of the processes in the body, including physiological and immunological; in fact, 80% of the immune system can be found in the gut. The greatest influence of microbiome formation occurs at birth, and is dependent upon the mode of delivery.

Twenty minutes after a baby is born naturally, they will have a microbiome in their gut resembling that of the mother’s birth canal; the microbiome of babies born by caesarean section will resemble those found on the external skin and the bacterium existing in the hospital.

The infant’s stomach will then act as an incubator to grow the bacteria it has acquired; therefore, those naturally born have a great advantage over the infants born of a caesarean section.

In Canada, we have seen a rise in caesarean births from 17% to 27% from 1995 to 2010;

this has been labeled the #1 public health problem facing our society. The next large influence of the microbiome is if the infant is given breast milk or is formula-fed; formula provides very little beneficial bacteria to an infant’s incubating microbiome.

The diagnostic criteria of Autism Spectrum Disorder (ASD), as described in the Diagnostic and Statistical Manual of Mental Disorders 5, is “persistent deficits in social communication and social interaction. Deficits include in social-emotional, reciprocity and non-verbal communicative behaviors for social interactions, developing maintaining and understanding relationships.” The term “autism spectrum disorder” encompasses varying degrees of severity; all children diagnosed with ASD fall somewhere on this spectrum. We have seen a large increase in the rate of autism over the years: it is estimated that 1 in 100 children will be diagnosed with autism in Canada this year. The United Nations estimates up to 70 million people worldwide fall somewhere on the autism spectrum.

What is causing the increasing rate of ASD? This topic has been heavily disputed over the last decade. ASD is a diverse disorder; there are likely numerous contributing factors. Studies have shown that siblings with autism may not carry the same autism risk gene. This

leads us to believe that although genetics are involved in ASD, environmental factors are the stronger influence. Now, where do the microbiome and gut health come into play? [The National Institute of Health conducted a study in 2012 with children diagnosed with some form of ASD; they found that 92% of these children had gastrointestinal distress.](#) The CDC estimated that children with ASD have a 3.5x greater chance of having chronic diarrhea and constipation. There is clearly an association between the gut health of children and ASD, but it is undetermined if it is a result or a cause. What we do know with confidence is that changing the microbiome and improving gut health will have beneficial effects on our health.

A study conducted at Harvard determined that microbiomes are dynamic and can change greatly within a day of modifying an individual's diet. So, what food you eat will determine the bacteria that you grow, and these bacteria can be responsible for activating various genes. Neurologist and author of *Brain Maker*, David Perlmutter, states: [“we’re now discovering how gut health and function—especially gut bacteria—connect to brain development... and a brain disorder such as autism.”](#)

The composition of children's gut bacteria is different between children with ASD and those without. The flora



of ASD patients tested higher in *Clostridium histolyticum* bacterium and lower in the good *bifidobacteria*, in comparison to the floras of healthy children. *Bifidobacteria* produce vitamins and have antibacterial properties. The *Clostridium* species of bacteria are known to be toxin-producing; these toxins can cause inflammation and adverse effects to the immune system and the brain.

One of the toxins produced is propionic acid (PPA), which in the gut will weaken the junctions between the intestinal-lining cells, causing foreign substances, including PPA, to leak into the bloodstream and thus throughout the body. This is termed “leaky gut” and causes a cascade of immune responses, because our immune system is activated whenever foreign substances enter. This cascade can include inflammation and damage to cells. Dr. Derrick F. MacFabe and his team fed a

group of pregnant rats and their offspring a diet high in PPA. At one to two months old, the rat pups showed developmental impairment similar to what is seen in ASD children.

[Most kids with autism have an early life history of at least one or two microbial challenges, including caesarean sections, formula-feeding, antibiotic use in the mother or in the child, processed food, NSAIDs, steroids, and various environmental pollutants.](#)

To elaborate further on the impact of antibiotics, they do not pick which bacteria to kill; they kill the good and bad. Antibiotics cause a shift in our microbiome and the impact can vary; for example, clindamycin will cause a four-month shift, while ciprofloxacin can impact the microbiome for up to a year. Various antibiotics such as fluoroquinolone, some cephalosporins, and sulfur-based

antibiotics can cause an overgrowth of the bacterial species *Clostridium difficile*; this can cause potentially fatal diarrhea. The point of this information is not to discourage the taking of antibiotics, as they can be necessary; however, it is important to acknowledge the effect they can have on the microbiome and to take measures to mitigate the shift in our systems.

We are what we eat; higher intakes of unhealthy food during pregnancy and in children up to 5 years old show higher levels of behavioural and emotional problems. Consuming good food is very important, but it is equally important to establish a healthy environment in the gut, so that we are able to extract the nutrients from our food. For example, serotonin and dopamine are neurotransmitters important in regulating mood and behaviour—they are manufactured in the gut. [So, if ASD children have gastrointestinal challenges, it is likely that they will have difficulty producing these necessary neurotransmitters.](#) Children with ASD have also been found to have lower levels of the amino acids that are required to manufacture these two neurotransmitters. So it is vitally important that they consume lots of protein containing these amino acids. Finally, how do we feed and heal our microbiome? We do so by incorporating fermented

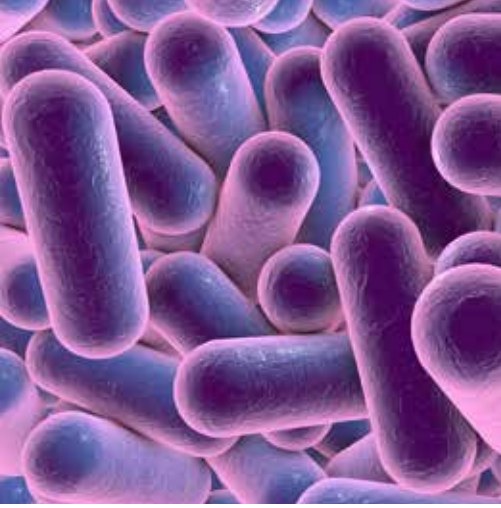
foods such as yogurt, kefir, kimchi, sauerkraut, pickles, kombucha, fermented meat, fish, and eggs. These foods have been used in traditional diets for thousands of years. Other important considerations that assist with a healthy microbiome are ensuring high-quality food: where it is grown, how it is grown, what happens while and after it's grown, how quickly it is eaten, how it is prepared.

Oral probiotics are important to establish good bacteria in the microbiome. A more aggressive and unconventional therapy used for individuals with microbiome disruption is fecal microbiota transplantation (FMT). This method has been used since the fourth century CE and is considered a cure for a potentially fatal antibody-resistant *Clostridium difficile* infection. Naturopathic doctor Mark

Davis notes FMT “has been safe and beneficial for people with ulcerative colitis, Crohn’s, IBS, MS, and other conditions.” FMT involves transplanting healthy fecal flora from a donor to the individual with symptoms; this is able to reset and recolonize the microbiome quicker than any other treatment.

As of 2013, the FDA banned physicians to perform FMT in practice, likely because of the inconsistency and lack of reproducibility from sample to sample. However, physicians can educate patients on how to do this in their own home. Dr. Perlmutter has used it successfully to treat neurological diseases, including a 12-year-old boy with ASD. He began by using oral probiotics, but then switched to FMT, where they saw huge improvements in behaviour. I am not implying that FMT is the “cure” to ASD,





initiating any treatment, it is important to consult a naturopathic doctor.

In conclusion, we can transform our health by transforming our microbiome, the trillions of organisms that exist within us. The microbiome that exists in ASD children is altered, and by promoting healthy bacteria, we can improve the behaviour and health of these children. Also, by improving the microbiome in the mothers at conception, throughout pregnancy and breast-feeding, we may be able to reduce the rate of ASD in our population.

It is important to avoid factors that challenge our microbiome, such as caesarean section and antibiotics, while incorporating things that build and strengthen it, like fermented foods. Please see your naturopathic doctor for appropriate suggestions for you.

but wanted to shed some light on a more unfamiliar therapy. There are other important protocols for treating autism that are used in naturopathic medicine that I will not elaborate on including: gluten- and casein-free diets, high-quality vitamin/mineral supplementation, iron, and essential fatty acids. Before

**APRIL IS
AUTISM
AWARENESS
MONTH**

For references and other great articles, visit NaturopathicCurrents.com

Other recent articles:



Bleeding Gums: A Look into a Natural Treatment Option for Gingivitis

Noticing blood while brushing or flossing can be alarming and shouldn't be ignored! The importance of oral health is a concept introduced to most Canadians at a very young age, and with good reason. The Ontario Dental Hygienist's Association reports that the link between oral infections...



Coffee: Health Benefits

We hear so often "Coffee is bad! Coffee is bad!" Coffee is one of the most highly consumed beverages in North America. It's no wonder there is literally a coffee shop on every street corner—and if it's not classified as a coffee shop, you can bet it serves coffee! Much of the speculation for why coffee is considered harmful is typically around the side effects of...



Restless Leg Syndrome: Treatment Approaches

Restless leg syndrome (RLS) is a condition that affects the part of the nervous system that causes an urge to move the legs. It usually interferes with sleep, so it can also be considered a sleep disorder. RLS can be quite troubling depending on the intensity of the symptoms. Symptoms include itching, burning, aching, and a desire...

Health Advice

Medicinal Mushrooms

The Importance of Extraction Methods

by Heidi Fritz, MA, ND

Medicinal mushrooms are a newly-emerging category among natural health products. There is a wealth of evidence demonstrating their many benefits; however, the effectiveness of mushroom products is highly dependent on proper extraction methods. In this article, we discuss the concepts of hot-water extraction and standardization to polysaccharide content.

Medicinal mushrooms possess an impressive range of applications, including immune



strengthening and tonification, treatment of adrenal fatigue, antiaging effects and benefits on cognitive function, improving male and female fertility, and of course use in adjunctive cancer treatment. With this broad range of uses, it is critical to understand the best use of each mushroom, proper dosing, and use of a high-quality, standardized extract.

Hot-Water Extraction

Hot-water extraction is critical in obtaining a high-quality and effective mushroom product, and is the traditional Asian method of extraction.^[1, 2] The primary class of active

constituents in mushrooms are *beta*-glucan polysaccharides. Mushroom polysaccharides interact with receptors on the surfaces of cells to mediate specific functions.^[3] In the whole mushroom, polysaccharides are bound by indigestible cell walls comprised of chitin; chitin must be dissolved through hot water in order to gently release the medicinal components, the mushroom polysaccharides. On the other hand, grinding the mushroom may cause damage to the long-chain polysaccharides and fail to remove the indigestible chitin (fibre), limiting the amount of therapeutic constituents that can be fit per capsule. Products that do not state “hot-water extract” are typically simply ground mushroom biomass.

“Hot-water extraction is necessary to liberate polysaccharides from the chitin wall.”

Standardization to Polysaccharide Content

Finally, standardization ensures that the end product contains a consistent amount of polysaccharides to allow delivery of a therapeutic dose. In the vast majority of human clinical trials



investigating the effectiveness of orally administered medicinal mushrooms, dosing was by polysaccharide content; for instance, “3 grams of polysaccharide per day” as opposed to “3 grams of *Coriolus* mushroom,” which would include chitin, fibre, and other constituents as well.^[4, 5] If a product is not standardized to its polysaccharide content, it is impossible to know how much polysaccharide is being delivered. Typically, the dose of polysaccharide is relatively high, up to 2–3 g being considered a therapeutic dose. Since New Roots Herbal has standardized its products to 40%, with approximately 400 mg polysaccharides per capsule; this is roughly equivalent to taking 2 capsules two to three times per day. This is among the highest concentration in the industry, and makes therapeutic dosing feasible for the customer in the long term, improving compliance and effectiveness.

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Flower Power

In the next few weeks, you may notice that the **ProstatePerform** bottles on the shelves of your store will have a change in the ingredient deck. We’ve actually doubled the amount of rye flower pollen per softgel in our industry-leading formula. Our rye flower pollen extract has a potent profile of nutrients that include vitamins, carotenoids,

minerals, amino acids, enzymes, lipids, prostaglandins, phytosterols, hydrocarbons, and flavonoids. This mosaic of nutrients has been clinically proven to collectively reduce symptoms of benign prostate hyperplasia. **ProstatePerform** also has the added benefit of 1000 IU of vitamin D₃ per softgel; studies have shown vitamin D₃ to inhibit tumour growth related to prostate disease.



Be Resilient

Mushrooms are revered and renowned in culinary circles for their eclectic flavours and unique ability to enhance, complement, and complete a dish. They benefit our health in a similar way as complex naturally occurring compounds within them activate and awaken our own defense mechanisms for better health and longevity. With a documented history of therapeutic applications dating back thousands of years, we still have plenty to learn and benefit from, as modern science plays catch-up with traditional use.

It's estimated there are 150,000 species of mushrooms, with approximately ten percent of these having been clearly classified. New Roots Herbal has identified seven species for this unique mushroom formula, **Resilience Mushroom Complex**. Our formula features mushrooms with science that supports their use for applications that span from the inhibition of malignant tumour growth to enhancing cognitive function and memory.

Resilience by the Cup

Try dissolving the contents of a capsule of **Resilience Mushroom Complex** with a cup of hot water with a pinch of salt and pepper. It's a soothing, medicinal, delicious, and even groovy way to get down the home stretch of cold and flu season.

Mushrooms occupy the ecological role of actively breaking down and recycling organic matter; this makes them a great naturally occurring source of vitamins, minerals, and complex compounds called polysaccharides.

Resilience Mushroom Complex contains extracts of reishi, maitake, shiitake, cordyceps, coriolus, lion's mane, and chaga—all of which are standardized and validated to contain 40% polysaccharides.

Polysaccharides are long chains of simple sugars, most of them belonging to a group called *beta*-glucans. They have the capacity to carry a wealth of biological information and have immense potential for structural differences; this accounts for the broad range of therapeutic applications for individual species and for the entire spectrum of polysaccharides in **Resilience**. Polysaccharides work by triggering the immune response of the host organism (which would be... you!). They stimulate activity of natural killer cells, T cells, B cells, and macrophages (specialized cells that engulf and destroy foreign, disease-causing cells). This helps your body unlock its own healing potential.

Resilience Mushroom Complex is perfectly suited for the person in search of better overall health. It amplifies the immune system-enhancing and antioxidant properties of our select seven species, while exploiting the species-specific benefits within each mushroom.



Reishi

- Energy and resistance to stress
- Overall system balance



Coriolus

- Strengthens immune-system performance



Shiitake

- Antioxidant and wellness
- Helps fight colds and flu



Chaga

- Adaptogen
- Antioxidant
- Immune health



Lion's Mane

- Supports cognitive health
- Promotes nerve regeneration



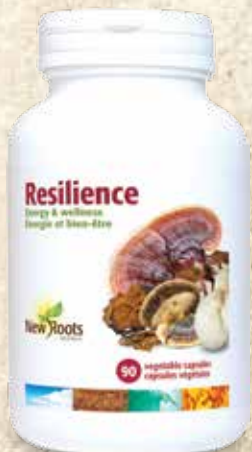
Cordyceps

- Energy
- Libido
- Stamina and endurance



Maitake

- Immune health
- Stabilizes blood sugar



Now Better Inside and Out

New Roots Herbal's **CoconutOil** softgels will now be certified organic. Our coconut oil is extracted with the solvent-free process of expeller-pressing from fresh, mature kernels. This retains the intact, beneficial fatty-acid profile unique to coconuts. Coconut oil is a great source of medium-chain triglycerides; MCTs deliver direct energy for body and mind, and do not get stored as fat. MCTs are also converted to ketones, which the brain can use as an alternative to glucose for improved cognitive performance.

Our softgels will also have a bold, new look. Its rich red colour reflects the addition of annatto extract to the matrix of the softgel.

Annatto, sourced from the fruit of the Achiote tree (*Bixa orellana*), is a rich source of tocotrienols, along with antioxidant and antimicrobial properties. It also adds UV protection and stability to the softgel itself.



Improve your Hair-Care Routine



Hair-care routines range from poaching—people like yours truly that “borrow” a little shampoo every morning from an unsuspecting family member—to those of us that follow a time-honoured ritual involving multiple products and procedures. What most of us do share as we age is the onset of baldness or thinning hair. With this in mind, we developed **Hair&Scalp**, a unique formula that creates favourable conditions for the prevention of hair loss and thinning.

Our synergistic formula contains 19 specific nutrients, which is up to twice as many ingredients as our competition in this category. **Hair&Scalp** addresses the hormonal, nervous, microcirculatory, vitaminic, and mineral needs critical for the ongoing health of both hair and scalp.

Hair&Scalp boasts a battery of ingredients that target the leading cause of male pattern baldness: the conversion of testosterone to dihydrotestosterone (DHT). Higher levels of DHT correlate with the miniaturization of hair follicles and their loss of productivity. Potent standardized extracts of saw palmetto, flax seed, grape seed, green tea,

and stinging nettle blended in a matrix of pumpkin seed oil work in unison to block action of the enzyme that drives DHT production. This protects hair follicles to preserve your hairline. L-Taurine works an additional pathway as it blocks action of the TGF- β protein that causes inflammation and miniaturization of hair follicles.

We’ve included B-complex vitamins critical for keratin production, the pivotal protein in hair, skin, and nails. These vitamins also support sensory nerves and microcirculation essential for productive hair follicles, including better bioavailability for the entire formula. Beneficial fatty acids, sourced from wild fish and evening primrose oils, favour microcirculation and hair growth, along with vitamin D₃.

The most recent addition to our formula is a potent apple extract standardized to 5% procyanidin B₂, the marker compound clinically proven to promote hair growth. Clinical trials have shown procyanidin B₂

to stimulate both hair density and thickness. It interferes with a specific enzyme; this process prolongs the anogen (growth) phase of hair and shortens the telogen (dormant) phase of the hair-growth cycle. This results in more hair follicles in their active stage.

For the hair you do have, our silica-rich horsetail extract will invigorate hair follicles and strengthen individual strands for increased resistance to breakage and split ends, providing fuller hair with a lustrous look.

Great-looking, healthy hair starts from within. Consider **Hair&Scalp** your formula for feeling great and looking younger.



Unlock the

full
potential

of your food.






Natural aging, combined with enzyme-depleted processed foods, has resulted in the loss of our ability to enjoy the full potential of what we eat. You can change that with **PlantDigestive Enzymes**. It helps the body break down proteins, metabolize fats, and absorb vitamins A, D, E, and K. **Try it today!**

- Offers 19 enzymes fully laboratory-tested for purity
- Maximizes assimilation of all critical vitamins, minerals, and nutrients
- Helps digest fats, complex carbohydrates, and proteins
- Compensates for enzymes depleted during food processing and preparation
- Safe for daily use, non-GMO, gluten-free, vegan-friendly

Prevention & Cure® since 1985



- Our ISO 17025 accredited laboratory has **15 scientists: 3 PhDs, 4 MScs, and 8 BScs**
- All our products are non-GMO

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PH⁵D Enteric Coating



An Insight Into Enteric Coating

We validate the identity, purity, and potency of the contents within every capsule New Roots Herbal manufactures; indeed our promise is “What’s on the label is guaranteed to be in the bottle.” When it comes to our family of probiotic products, what’s coating the capsule rivals the importance of the contents.

Our capsules are coated with a special water-based PH⁵D dual layer enteric coating.

This aqueous coating system applies a membrane of ethyl cellulose to protect the contents of our probiotic capsules from the harsh, acidic conditions within the stomach that can plummet to a pH level of 1.5. Ethyl cellulose is a long-chain organic molecule belonging to the group of compounds called polysaccharides. It protects the contents of the capsule for safe passage to the less acidic

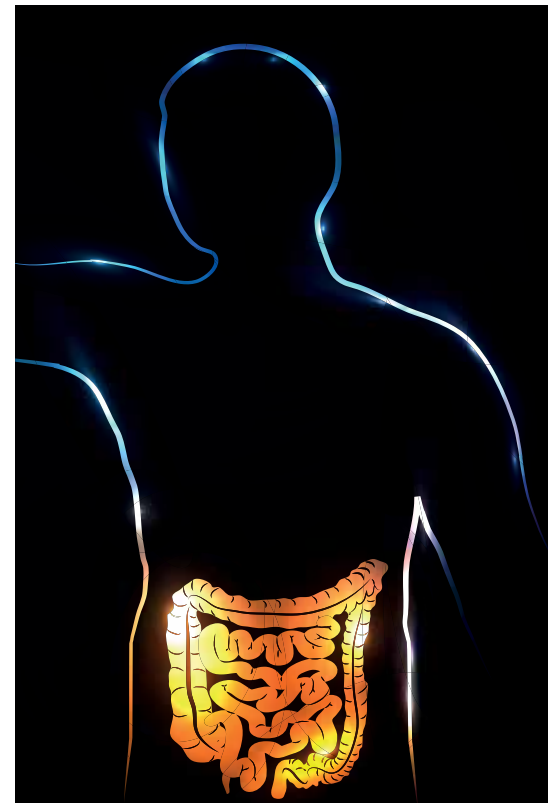
pH level of between 5 and 5.5 within the small intestine. Once within the intestines, this hybrid membrane gradually disintegrates for sustained release of its contents. Which explains the name of our enteric coating, PH⁵D: when the pH of 5 is attained, delivery of the probiotic cultures starts.

This gradual rate of diffusion throughout the entire intestinal tract further allows the prebiotics (fructooligosaccharides and arabinogalactans) within our formulations to initiate the multiplication and growth of the live probiotic cells within each capsule. This process is referred to as colony forming, with live cells in probiotic supplements referred to as colony-forming units (CFUs). The live cultures then embed themselves within the mucosal lining of the entire intestinal tract to deliver their unique, species-specific benefits. Simply put, probiotics need the protection of enteric coating or their numbers will mostly be decimated by the harsh, acidic environment within the stomach. The therapeutic benefits of probiotics depend upon arriving

alive within the intestines followed by their exponential growth.

We’ve tested our probiotics against leading non-enteric coated brands in our probiotic laboratory, and the die-off rate for probiotics without enteric coating is alarming.

Invest in your health with New Roots Herbal’s probiotics and feel the difference we deliver.



Probiotics need to reach the intestines to be effective. Without an enteric coating, the probiotics cannot survive the harsh acidic environment of the stomach, and most of the probiotics will die before reaching the intestines

Choose your probiotics wisely!

Dollars and Sense

Laboratory tests results show non enteric-coated capsules containing probiotics dissolve in normal harsh stomach acids in less than 10 minutes.

The survival rate of the probiotics in the capsule taken on an empty stomach is at most 0.7%.

The survival rate of the probiotics in the capsule taken with a meal* is at most 7.0%.

As an example, let's say you purchase a bottle of non enteric-coated capsules for \$50. For that

\$50, you will be getting a value of only \$0.35 if taken on an empty stomach; and a much better return on your investment of \$3.50 if taken during a meal.

New Roots Herbal's enteric coated capsules containing probiotics arrive protected to the small intestine with it's precious benefits.

* Meat, potato, vegetable, and salad.

New Product Available

which is produced with exposure to sunlight. It's critical for the absorption and regulation of calcium and phosphorus levels necessary for strong bones, teeth, and nails.

Adequate vitamin D₃ levels are crucial during the developmental years of childhood through adolescence. A deficiency of the "sunshine vitamin" can negatively affect childhood development, immune system performance, and mood.

Clinical trials have also proven encouraging with vitamin D₃ supplementation for children regarding conditions spanning from Irritable Bowel Disease (IBD) to respiratory infections, including pneumonia. In addition, research from the University of California at San Francisco has also explored liquid vitamin D₃ for core symptoms of autism. Low levels of this vitamin correlate with

impaired serotonin production, which has been linked to symptoms of autism.

At 400 IU per drop, dosage can be easily tailored to suit individual requirements.

Dosage is simple and convenient, and its neutral taste is fine on its own or added to cold beverages, cereals, or fruits.



A New Addition to the Family

We're excited to add **Children's Vitamin D3** to our Junior New Roots selection of supplements.

Each drop of delivers 400 IU of vitamin D₃, instrumental for the absorption and use of calcium and phosphorus, as well as for the development of healthy bones and teeth. Vitamin D₃ is the biologically active form (cholecalciferol)

Maple-Sweetened Banana Bread

by Sharisse Dalby, CHN

Call me Canadian, but I love a good organic, pure maple syrup. I drizzle it on my oatmeal, use it in my baking, and have been known to add it to my coffee. What can I say? I'm addicted to everything about it, from the flavour to the sweetness—it seems to hit the spot just right every time.

However, nowadays there is a lot of fear about consuming sugar. This could be because one in four adult Canadians are obese, or it could be because over 2.4 million Canadians are living with diabetes.^[1, 2] Whatever the reason for it, I think a little clarification is in order.

It is true that our sugar consumption, as a whole, is too high. On average, Canadians consume 26 teaspoons of sugar each day.^[3] But should we avoid sugar altogether? Not necessarily.

Maple syrup is a carbohydrate and contains about two-thirds sucrose—which you also know as table sugar. Sucrose is a disaccharide (two simple sugar molecules that are attached) that gets broken down into two

monosaccharides (a single sugar molecule): glucose and fructose.

The monosaccharide glucose is your body's preferred source of energy, with excess glucose being stored as glycogen for later use. Excess fructose gets stored in the body as fat.

That's the bad news, but there's good news too! Though maple syrup is a sugar, and all sugar should be consumed in moderation, it has many benefits that encourage its use as a sugar substitute—including its level of sweetness, allowing you to use even less sugar!

Some of maple syrup's health benefits come from its potassium, calcium, iron, and zinc, but it's most well-known for its manganese (one tablespoon contains 25% of your RDA). It contains at least 24 different antioxidants, with the darker syrups being richer in minerals and antioxidants. It is also lower than white sugar on the glycemic index, at 55 compared to 65.

Maple syrup can make a great sugar substitute. By swapping out white sugar one for one in a recipe, you'll reduce the total sugar content by two thirds, but trust me—you never need as much! Plus, you'll have the benefits of added minerals and antioxidants. You can use it in baking, salad dressings, or even as a sweetener in your coffee with an added hint of maple.

My favourite way to use it is in my banana bread. It is so simple

to make and tastes great with a hint of maple!

Ingredients

- 1¼ cups whole-grain flour
- 1 tsp. baking soda
- ¼ cup pure maple syrup
- ¼ cup cold-pressed, extra virgin coconut oil, melted
- ¼ cup plain, nonfat Greek yogurt
- 1 large egg
- 3 medium ripe bananas, mashed
- ¼–½ cup goodies (blueberries, walnuts, dark chocolate chips)

Instructions

Preheat your oven to 350 °F. Combine the dry ingredients in a large bowl. In a medium bowl, combine your wet ingredients.

Add the wet ingredients to the dry and combine. Be sure to not overmix! Gently fold in your goodies.

Cover a loaf pan with some coconut oil, pour the batter into the pan, and bake for 40 minutes or until an inserted toothpick comes out clean.

Makes 12 slices.



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3. <http://www.statcan.gc.ca/pub/82-003-x/2011003/article/11540-eng.htm>

Sweet Potato and Maple Syrup Bars

by Joanna McDonald, MT, RM

Ingredients

- 2 medium sweet potatoes
- 3 tbsp. maple syrup
- 1 tsp. cinnamon
- ¾ cup walnuts
- ½ cup pistachios
- ¾ cup buckwheat
- ¼ cup goji berries (or raisins)

- ¼ cup chia seeds
- ½ cup pumpkin seeds (or sunflower seeds)
- ¾ cup almond butter
- 1 tbsp. coconut oil
- ½ tsp. nutmeg
- Pinch of salt

Instructions

Pre-heat oven to 325 °F. Peel sweet potatoes. Cut into small chunks. Place them in a mixing bowl. Add 1 tbsp. of maple syrup and ½ tsp. of cinnamon and toss to coat evenly. On a baking sheet lined with parchment paper, spread out your sweet potatoes evenly. Bake at 325 °F for 40 minutes or until chunks are soft and tender. You may have to turn them over part way. Let cool when done.

Meanwhile, in a food processor, gently pulse nuts until they break into small pieces. In a mixing bowl, add the nuts, buckwheat, goji berries (or raisins), chia seeds, and pumpkin seeds (or sunflower seeds) and toss to combine. Set aside.

Combine almond butter, coconut oil, 2 tbsp. of maple syrup, ½ tsp. of cinnamon, ½ tsp. of nutmeg, and salt in a large bowl. Gently incorporate the nut mixture into the liquid ingredients.

On a cookie sheet lined with parchment paper, gently spread out the mixture to an even layer. Freeze bars overnight. Cut into squares. You may freeze bars up to 3 months in an airtight container. Enjoy!



Photo by: Marie-Jo Mercier



Sugar Shack Stack

Gluten-Free Fluffy Pancakes

by Joanna McDonald, MT, RM

Ingredients

- 3 overripe mashed bananas
- 1 cup vanilla almond milk
- 2 free-range eggs
- 1¼ cup all-purpose gluten-free blend (Bulk Barn has great blend!)

- 2 tsp. baking powder
- Pinch of salt
- ¼ tsp. cinnamon
- 1 tbsp. grapeseed oil

Toppings

- 1 cup fresh or frozen fruit of your choice (blueberries, strawberries or mango)
- Butter and maple syrup to taste

Instructions

Mash bananas in a mixing bowl. Slowly add the rest of the wet ingredients and stir to combine. In another bowl, combine all

dry ingredients. Gently add the wet ingredients to the dry, stirring to make sure everything is just incorporated; do not over mix. Pre-heat your frying pan to medium-low heat. Add half the oil to coat the bottom of the pan.

Pour pancake batter into frying pan and cook slowly. When pancakes start to show bubbles and turn up at the corners, flip to the other side. Keep the pancakes on lower heat as they can burn. Top with fresh or frozen fruit and/or maple syrup.

Makes about 10 pancakes.

Manzanillo Maple Syrup Baked Beans

by Gordon Raza, BSc

We've added some Mexican flair to this traditional Quebec dish.

Ingredients

- 2 cups dried navy or white beans, soaked overnight in 3 times their volume of water
- 2 cups water (sub in a cup of dark beer for a deeper hue and added complexity)
- 1 cup maple syrup
- 2 large onions, peeled and diced

- 2 jalapeño peppers, seeded and slivered
- 1 heaping tbsp. Dijon mustard
- A dash or two of Worcestershire Sauce
- Sea salt and freshly ground pepper, to taste
- 1 tbsp. apple cider vinegar
- Cilantro, for garnish

Instructions

Cover the beans in water and soak overnight. Strain and cold-water rinse the beans.

Toss the beans into a saucepan and cover them with cold water. Bring to a boil and then reduce the heat and simmer, covered until the beans are tender—about an hour or so.

Drain the beans.

Sautee onions and jalapeño peppers in a 4-quart ovenproof baking dish. Then add beans, water, maple syrup, mustard, Worcestershire sauce, salt, and pepper.

Cover with lid and place in the oven at 275 °F and bake until the beans have absorbed most of the liquid and are tender—about 3 hours or so. Add more water if they seem dry.

Stir in the apple cider vinegar and garnish with cilantro before serving.

Health hint:

Add some plant sterols and or ground flax to amp up the health quotient.



Photo by: Marie-Jo Mercier

Crustless Cheesy Broccoli Quiche

by Theresa Nicassio, PhD

Perfect for brunch, lunch, or anytime! I created this mouth-watering quiche when our broccolini plants were abundant and at their prime. Our wonderful neighbour Jenny Chapman had given us seedlings she'd grown in her greenhouse from her previous year's crop. All that loving care infused every special bite.

Ingredients

- 12 oz. firm silken tofu
- ½ tsp. Himalayan salt
- ⅛ tsp. black pepper
- 2 tbsp. nutritional yeast
- ½ tsp. fresh (or ¼ tsp. dried) thyme
- ½ tsp. fresh (or ¼ tsp. dried) oregano
- ½ tsp. fresh (or ¼ tsp. dried) rosemary
- Favourite cooking oil for sautéing
- 1 small onion, chopped
- 2-3 garlic cloves, finely minced or microplaned
- 1 tsp. finely minced jalapeño pepper (optional)
- 2 cups chopped broccoli and/or broccoletti
- ⅓-½ cup finely chopped green onions

- 1½ cups Daiya cheddar or favourite vegan cheese, grated

Instructions

Blend together the tofu, salt, pepper, nutritional yeast, and herbs until creamy, then set aside. In a skillet, lightly sauté the onions, garlic, and jalapeño pepper (if using) until the onions are translucent. Turn off the burner and stir in the broccoli, green onions, 1 cup of the cheese, and the prepared tofu mixture. Spoon into greased ramekins. Sprinkle the remaining cheese on top of the ramekins and bake in a preheated 350 °F oven for 30-45 minutes. Remove from the oven and serve hot.

Serves 4-6.

Excerpt from YUM: Plant-based recipes for a gluten-free diet (winner of the 2015 GOURMAND WORLD COOKBOOK AWARD) by Dr. Theresa Nicassio. Order your copy today at yumfoodforliving.com





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Therapeutic Algae Supplements

by Heidi Fritz, MA, ND

Chlorella

Chlorella is a single-cell green algae rich in chlorophyll, the pigment involved in plant photosynthesis and a potent antioxidant. Chlorella has been studied for its effects on detoxification pathways, immune stimulation, as well as anti-inflammatory effects. One study found that administration of chlorella for eight weeks significantly increased activity of the specialized immune cells called natural killer cells, as well as interferon- γ and interleukin-1 β levels in healthy subjects, compared to placebo.^[1]

In patients with hepatitis C, chlorella has been shown to exert liver-protective effects, reducing levels of the liver enzyme ALT (a marker of liver damage), and slightly decreasing viral load.^[2] Finally, another study showed that supplementation with chlorella can decrease dioxin levels in breast milk.^[3] This means that chlorella may help women safely excrete dioxins—which are a xenoestrogenic and carcinogenic compound—and decrease transfer to their infant through breast-feeding. The same study also found increased



breast-milk IgA levels, suggesting better infant immune protection.

Spirulina

Spirulina is a blue-green algae high in amino acids with antioxidant and anti-inflammatory effects. Spirulina has been shown to benefit symptoms of allergic rhinitis (i.e. runny nose and congestion) associated with seasonal or environmental allergies. One study found that, compared to placebo, spirulina improved symptoms of nasal discharge, sneezing, nasal congestion, and itching.^[4] Another randomized study found that spirulina supplementation can modulate cytokines—chemical signals produced by cells that influence immune function and inflammation—in patients with allergic rhinitis.^[5]

Supplementation with spirulina has also been shown to increase NK-cell activity and interferon production.^[6] NK cells are

specialized immune cells integral to protection against cancer development and viral infection.

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Thank-You Words from CPAWS

Friends at New Roots Herbal, 2015 was a surprising year. A number of our campaigns succeeded after years of work. Two new (and big) national parks, a big new marine protected area in Lake Superior, and a bunch of new protected areas in Alberta, Manitoba, Quebec, and Nova Scotia!

That, and important progress on protecting glass sponge reefs off the coast of Vancouver, another step closer to a new national park on the east arm of Great Slave Lake, strong support for a buffer zone around Gros Morne... and the list is only growing!

We've also had to work to fight off the encroaching development in our parks. We succeeded in stopping plans for a hotel in

Jasper National Park's beautiful Maligne Lake, but the threats continue.

Our work to ensure strong conservation commitments by each of the major political parties paid off—we have a government that has publicly committed to protecting 10% of our oceans and 17% of our land by 2020—and to limit development in our parks.

So now, we need to keep the pressure on more than ever! It's going to need an "all hands on deck" approach. Probably more effort from us to help deliver than we've had ever before. It's the opportunity of a generation.

Thank you for being a part of that. We're now preparing for our most successful year ever. 2016 is going to be a wild ride!

Yours in conservation,

*Éric Hébert-Daly
Canadian Parks and
Wilderness Society*

National Executive Director

choosetocare.ca



Trust Slimmer System to help you reach your personal goal

New Roots Herbal's **SlimmerSystem** contains a potent extract of *Garcinia cambogia*, scientifically proven to help reduce appetite and cravings, as well as to inhibit the storage of fat. This unique formula contains nutrients that work synergistically to speed up your metabolism to burn maximum fat as well as increase lean muscle mass and energy levels.

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- Increases energy levels and helps release stored fat
- Contains thermogenic green tea (75% EGCG), which helps protect breasts and prevent disease




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