



# SUPPLEMENT GUIDE

An Additional Resource for *The Proof is in the Plants*

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Creator of The Proof Podcast and  
author of *The Proof is in the Plants*

**THE PROOF<sup>•</sup>**

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## DISCLAIMER

The information found on **theproof.com** or any of its media platforms, and in this guide, is intended for informational and educational purposes only. Any statements made on these platforms are not intended to diagnose, cure, treat or prevent any disease or illness. Please consult with your medical practitioner before making any changes to your current diet and lifestyle.



## A NOTE FROM ME

### HI FRIENDS,

It's great to have you here with me.

My name is Simon Hill—host of The Proof podcast, nutritionist, sports physiotherapist, creator of **theproof.com** blog and author of *The Proof is in the Plants*.

My philosophy is simple. We live in an environment that makes it incredibly hard to follow an evidence-based dietary pattern, an environment that in many ways sets us up for failure. Rather than waiting for this environment to change, or waiting to experience pain, I want to arm you with evidence-based solutions. This will help you better navigate the world in which we live and improve your chances of living a long, healthy life, allowing you to do more of whatever it is you love to do.

It took me a master's in Nutrition and years of research to understand the science and how our food choices are shaped. However, I believe that this information should be easily accessible to everyone.

This isn't about dietary labels or agendas. It's a space to honour science, to honour learning as a community and to encourage progress over perfection. If you want to improve your health and tread more lightly on the planet, I am here to help you do that.

Yours truly,

Simon



# THE PROOF IS IN THE PLANTS

What if there was a way of eating that may help us live healthier for longer and protect the future of our planet, too?

The good news is that evidence now shows a plant-based diet may offer us exactly that – I've done the hard work translating the science into actionable advice for everyday life.

In my first book ***The Proof is in the Plants***, I bring together all the facts and advice for anyone curious about feeling and doing better through a plant-focussed diet.

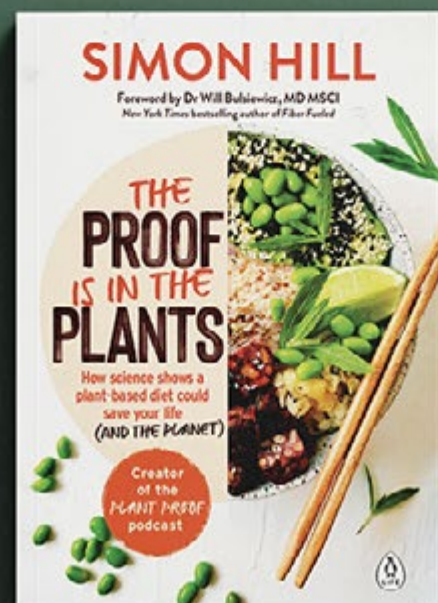
Before transitioning to a plant-based diet I held many of the common misconceptions. But instead I experienced incredible improvements in my energy levels, digestion, mental clarity and post-workout recovery after making the shift. I'd finally understood the power of food and was determined to find out – and share – the agenda-free truth about the optimum diet for human health.

By undertaking a master's degree in nutrition, poring over the latest scientific papers and books, and producing hundreds of hours of my internationally successful The Proof podcast, I have pursued the answers to all the questions I had about fuelling our bodies with more plants. Now, in my first book, I bring it all together into one inspiring and practical guide.

It covers:

- The reasons why we're all so confused about what to eat
- The evidence showing how a plant-based diet can reduce the risks of heart attacks and strokes, type 2 diabetes, cancer and dementia
- The positive impact of plant-based living for the climate and animal welfare
- Common myths about a plant-based diet – and what the real facts are
- How to build a healthy, satisfying plant-based plate, from macronutrients to micronutrients
- Practical tips for making the shift, and much more

If you want to understand and unlock the many benefits of putting more plants on your plate, this book is for you.



**LEARN MORE  
ABOUT THE BOOK**



# FRIENDS OF THE PROOF

Recommendations, resources, discounts, and more — here you'll find brands and products that are Proof friendly to help you live better for longer.

Essential 8 is your must-have daily vitamin, scientifically formulated to complement your plant-focused diet. Crafted to deliver the optimal dosage of nutrients in highly bioavailable forms, Essential 8 helps you maintain a healthy immune system and supports your cardiovascular, bone, and brain health.

Each bottle contains one month's supply when taken daily. Ethically produced, backed by science, powered by nature.

Save 10% on your first order (on top of the normal subscription saving) by heading to [theproof.com/friends](https://theproof.com/friends).

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FIRST ORDER**



eimele™



# SUPPLEMENT GUIDE



# SUPPLEMENT GUIDE



In my book ***The Proof is in the Plants***, we go through the 8 Nutrients of Focus for someone adopting a plant-predominant or plant-exclusive, whole-food, plant-based diet (WFPBD). While all diets require planning, these are the specific nutrients that become more important to look at when reducing your intake of animal products.

This guide is not here to duplicate the book (which goes into more detail on these nutrients and why plant-based dietary patterns are particularly beneficial). Instead, it will help you if you've decided to supplement a particular nutrient. What form of the supplement is best, and how much should you take? Which brands do I recommend?

In Part 1 of this guide we will go through each of the 8 nutrients of focus. Then, I'll summarise everything. So, while it may seem like a lot of information, don't stress—I'll finish by showing you how I personally supplement as simply as possible. Then in Part 2 we will explore specific nutrients for optimising performance for plant-based athletes.





For full transparency, I was engaged to formulate the Eimele supplement product range and form part of the Eimele scientific advisory panel. Eimele is a company whose mission is to help people following plant-rich diets achieve optimal well-being. When formulating their products, I drew from not only the most recent scientific literature on nutrients of focus for those following plant-rich diets but also the thousands of messages I get per month from people in the community expressing frustration with their quest to find supplements that meet their needs.

While I was by no means obliged to, I have included some of the Eimele products in my recommendations below (they are products I take and recommend to friends and family). I have also included other brands and, more importantly, provided the information required for understanding key ingredients and dosage so that you can buy whichever brand you desire.

Any proceeds received from affiliate links in this guide will be donated to *Half Cut*, a not-for-profit organisation helping to save the Daintree Rainforest from deforestation. The same organisation which all proceeds I receive from my book ***The Proof is in the Plants*** go to.





**PART ONE**

# **NUTRIENTS OF FOCUS**



# THE 8 NUTRIENTS OF FOCUS

8 NUTRIENTS OF FOCUS	
OMEGA-3'S (DHA/EPA)	VITAMIN B <sub>12</sub>
VITAMIN D	CALCIUM
IODINE	IRON
SELENIUM	ZINC

(Nutrients we should all plan to get adequate amounts of for everyday health and well-being)

Below are my recommendations for long-chain omega-3 supplementation to optimise a WFPBD. While this is by no means a requirement for a healthy WFPBD I do consider it a good insurance policy - I talk about this in more detail in ***The Proof is in the Plants.***

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**FORM** DHA & EPA from Algae oil

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**DOSAGE** 840 – 1,500 mg per day

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**BRANDS**

- ◆ Eimele Algae Oil
- ◆ Primal Collective DHA/EPA Algae oil (858 mg)

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**NOTE** Be careful to read labels. Firstly, if it's important to you, make sure it's from algae, not fish. Secondly, make sure DHA and EPA (and sometimes DPA) are the only omega-3s on the label. Sometimes, labels add flaxseed or other oils to cheaply increase their total omega-3 content, but these are not the bioactive long-chain forms of omega-3 that we want to supplement.

Many brands use a dose of 200–300 mg. While this will help prevent deficiency, it may be less optimal than dosages of ~ 840–1,000 mg that has been shown in clinical trials to reduce the risk of, experiencing or dying from a heart attack.

To achieve an omega 3 index level of 8–12%, which is considered ideal, a dose of 1,200 – 1,500 mg per day may be required for people who do not eat fatty fish (e.g. vegans).

A 4 g dose prescription variant of EPA (icosapent ethyl) is the preferred omega-3 supplement for someone who has cardiovascular disease or type 2 diabetes, high triglycerides and is taking statins (cholesterol-lowering medications). This advice comes from the recent REDUCE-IT trial.<sup>1</sup> If this is you, it is best to discuss this more specific form of omega-3 with your doctor.



# VITAMIN B<sub>12</sub>

8 NUTRIENTS OF FOCUS

## FORM

Cyanocobalamin

## DOSAGE

10–250 mcg daily

2500 mcg once weekly

## BRANDS

- ◆ **21st Century B12** (2500 mcg)  
A once weekly dose - easiest and cheapest option for those not taking a multivitamin
- ◆ If considering a multivitamin, I recommend **Eimele's Essential 8** which contains B<sub>12</sub>

## NOTE

Cyanocobalamin is the most well-studied form of B<sub>12</sub> for preventing and reversing deficiency. For that reason, along with the fact that other forms may not convert to both active forms of B<sub>12</sub>, it's what I recommend.

If you choose to supplement with methylcobalamin, that's perfectly fine, but be sure to also supplement with adenosylcobalamin (the other active form of B<sub>12</sub>).

The other option for getting B<sub>12</sub> on a plant-exclusive diet (not the one I recommend) is regularly consuming B<sub>12</sub>-fortified foods at least 3 x per day.

# VITAMIN D

8 NUTRIENTS OF FOCUS

## FORM

Vitamin D3 from Lichen **or**  
Vitamin D2

## DOSAGE

### Average person:

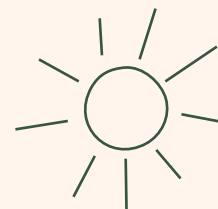
500–2000 IU per day (12.5–50 mcg/day)

### Overweight/obese person:

3000 IU per day (75 mcg/day)

### Over 70 years old:

4000 IU per day (100 mcg/day)



## BRANDS

### ◆ Garden of Life's Vegan D3 Spray

It comes in a 1000 IU dose (easy to dose depending on your target) with added polyunsaturated fats to help vitamin D absorption. If you are not getting vitamin D as part of your multi-vitamin, this is a good option.

### ◆ If considering a multivitamin I recommend **Eimele's**

**Essential 8** which contains 1000 IU of D3 from lichen—a good dose for year-round use, particularly for people from northern latitudes and/or those who get minimal sun exposure.

## NOTE

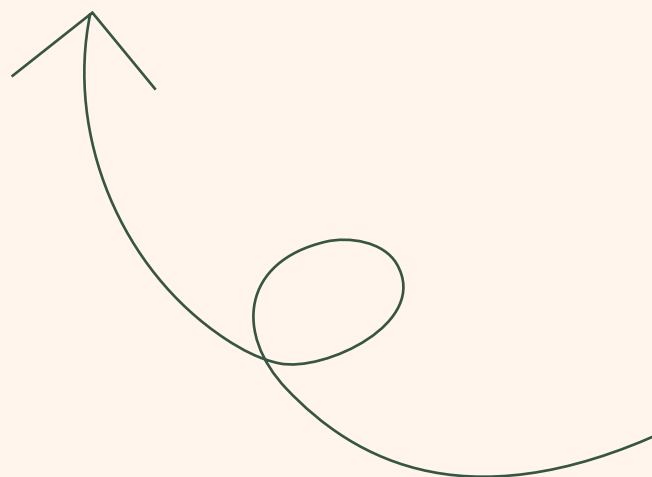
Make sure you supplement with Vitamin D3 sourced from lichen (an algae-like organism) or D2 sourced from mushrooms. If you find a D3 that doesn't stipulate where it is from, it's most likely sourced from animal products. If possible, try to source D3 from lichen—it is absorbed better than D2.<sup>2</sup>

If you take a vitamin D supplement, it's wise to test your level at the end of the summer (when your level will likely be at its peak) and end of the winter (when your level will likely be at its lowest) to ensure that the dosage you are taking is keeping you within the healthy reference range (see my **Blood Test Guide** for the reference ranges).

I am often asked whether those limiting animal products, or following plant-exclusive diets, need to supplement with vitamin K2. Based on current research, my answer to that is no, it's not necessary for the typical person as a healthy body produces enough K2 on its own (it's considered a nonessential nutrient for that reason).

However, if you have a history of extensive antibiotic therapy or are a post-menopausal woman with low bone mineral density, supplementing vitamin K2 can be beneficial and should be considered in consultation with your doctor, nutritionist or dietitian.<sup>3</sup>

If, for whatever reason, you decide to supplement with vitamin K2, it's important to choose the right form—MK7 is the form of vitamin K2 that is best absorbed (found naturally in natto and goose liver). A 2012 study compared MK7 to MK4 (the type of vitamin K2 found in commonly consumed animal products) and found that while MK7 markedly increased vitamin K2 levels in the blood, MK4 did not.<sup>4</sup>





In **The Proof is in the Plants**, we talk about the importance of eating calcium-rich, whole, plant-based foods. While it is completely possible to consume an adequate amount of calcium from whole plant foods, it can be helpful to lean on calcium-fortified foods such as calcium-set tofu and calcium-fortified, plant-based milks. Personally, I prefer to make my own plant-based milk at home (it's simple, cost-effective and means less waste), but one of the downsides of this is that you miss out on the calcium that is often in store-bought, plant-based milks! Well, that's what I thought until I figured out you can easily fortify your own plant-based milks at home by adding a flavourless calcium powder to your recipe. Here's the information you need to give this a go yourself.




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**FORM** Red algae powder **or** calcium citrate

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**DOSAGE** 100 mg per 150 ml of plant-based milk

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## BRANDS

### 🟢 **Now Foods Red Algae Calcium (powder)**

This is a highly bioavailable synthetic form of calcium

**Or if not making fortified milk, these brands offer calcium in capsule form:**

### 🟢 **AlgaeCal Plus (capsules)**

This plant-based calcium powder with K2 and vitamin D3 is derived from algae

### 🟢 **PlantFusion (capsules)**

This plant-based calcium powder with K2, vitamin D3 and trace minerals is derived from algae

### 🟢 **Eimele's Essential 8** contains 200 mg of calcium per daily serving

## NOTE

If supplementing calcium, whether in capsule form or through fortified foods, it's recommended not to exceed 500 mg per day to avoid the risk of kidney stones and increased risk of heart disease.<sup>6-8</sup> If a supplement provides a daily serving over this, that's okay; just reduce the serving size.

My favourite calcium-fortified, plant-based milk to make at home is a creamy oat milk inspired by a recipe developed by my friend Dana at Minimalist Baker. You can find this recipe and others in my **2 Week Meal Plan**.



# IODINE

8 NUTRIENTS OF FOCUS

**FORM** Potassium-iodine **or** a kelp supplement

**DOSAGE** 150–300 mcg

- BRANDS**
- ◆ **Now Foods Kelp** (150 mcg)  
It performs heavy metal testing (arsenic content is 43 times lower than the daily upper limit)
  - ◆ **Bioceuticals Potassium Iodine Drops** (2 drops = 190 mcg, 3 drops = 288 mcg of iodine)
  - ◆ 150 mcg of iodine is also in **Eimele's Essential 8** vegan multivitamin



**NOTE** If choosing a kelp supplement, look for one that tests for arsenic (a heavy metal and known carcinogen that has been found in some kelp supplements on the market).<sup>9,10</sup> While it's unlikely a kelp supplement would contain arsenic above the levels determined as toxic, it's better to err on the side of caution and opt for a brand that tests rather than one that is flying blind.

As discussed in **The Proof is in the Plants** your other options for achieving adequate iodine intake are iodised salt (preferably a Lite or Lo Salt option) or wakame/dulse flakes. Usually to meet the 150 mcg RDI you will need ½ tsp of iodised salt per day or 2 tsp of wakame/dulse flakes depending on the brand.



# IRON

8 NUTRIENTS OF FOCUS

## FORM

Iron Bisglycinate (also called ferrous bisglycinate chelate)

## DOSAGE

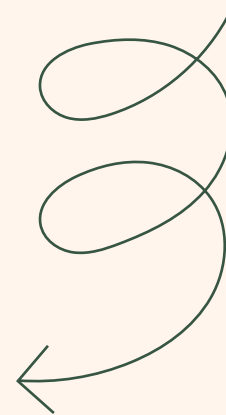
**Males:** 5–12 mg (usually in a multivitamin)

**Females:** 8–25 mg

## BRANDS

◆ **Thorne Iron Bisglycinate** (25 mg)

◆ It's also contained within **Eimele's Essential 8** vegan multivitamin (12 mg per serve), a moderate dose that is safe for both men and women to consume



## NOTE

Gastrointestinal side effects (e.g. constipation) are not uncommon with iron supplementation. Iron bisglycinate (the form I recommend) is associated with fewer side effects than the more common forms: ferrous sulfate, gluconate and fumarate.<sup>11,12</sup>

It's best to avoid taking iron supplements with food. Doing so will improve absorption!

# SELENIUM

8 NUTRIENTS OF FOCUS

## FORM

Selenomethionine or Selenium-Enriched Yeast

## DOSAGE

30–200 mcg

## BRANDS

- ◆ **Thorne Selenomethionine** (200 mcg)
- ◆ If considering a multivitamin, I recommend **Eimele's Essential 8**, which contains 70 mcg of selenium.

## NOTE

I do not recommend exceeding 200 mcg in supplement form as the upper limit for selenium (level where toxicity can occur) is only 400 mcg, and you will no doubt be getting some in your diet.

# ZINC

8 NUTRIENTS OF FOCUS

## FORM

Zinc Picolinate or Zinc Glycinate

## DOSAGE

5–25 mg

## BRANDS

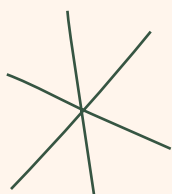
◆ **Solgar Zinc Picolinate** (22 mg)

◆ If considering a multivitamin, I recommend **Eimele's Essential 8**, which contains 12mg of Zinc Glycinate - a chelated form of zinc that is easily absorbed. For most people this is a sufficient amount of supplemental zinc to add to what you're already consuming in your diet. If you have low levels of zinc, or zinc deficiency, you will want to take a higher dose until your levels return to a healthy level

## NOTE

The zinc upper limit (level where toxicity can occur) is 40 mg. So, be careful taking high-dose zinc unless clinically indicated and under the supervision of a qualified health professional.

Evidence suggests zinc picolinate and zinc glycinate (two forms of chelated zinc) are the best-absorbed forms of zinc.<sup>13–16</sup>





During pregnancy, a woman has special requirements to support healthy growth and development of her unborn child, as well as her own health. For this reason, it is recommended to take a specific women's prenatal supplement. While I have yet to find the 'perfect' prenatal supplement, below are the ones that I recommend as most comprehensive.



### BRANDS\*

- ◆ Eimele Essential Prenatal
- ◆ Mega Food Baby & Me 2 Prenatal Multi
- ◆ Bioceuticals InNatal
- ◆ Metagenic Pregnancy Care Advanced

\* Unlike many prenatsals these prenatal multivitamins contain choline, an important vitamin during pregnancy

In addition to taking these, the general recommendation is for pregnant women to also supplement with an omega-3 algae oil that contains at least 200 mg of DHA. However, according to a 2018 Cochrane review, it may be better for pregnant women to supplement with at least 500 mg of DHA per day from week 12 of pregnancy.<sup>17</sup>

Please take this information with you when you see your doctor, nutritionist or dietitian so you have it on hand to discuss. Depending on where you live, they may suggest other brands, but the general principles apply: a broad-spectrum prenatal supplement that contains choline plus a separate DHA/EPA supplement that provides at least 500 mg of DHA per day. Of course, there may be other specific recommendations based on your health and blood test results.

So, how do I navigate this personally? I take two supplements per day in soft-gel-capsule form—**Eimele's Essential 8**, which contains all of the 8 nutrients of focus and an algae oil providing 840 mg of combined DHA/EPA.

I also fortify my homemade plant-based milk (or smoothies) with a red-algae-based calcium powder (my favourite being oat milk, which is highly sustainable—for my creamy oat milk recipe, see my 2 Week Meal Plan [here](#)) when I make it at home. Otherwise I simply buy calcium fortified plant based milk from the supermarket (ideally one that contains over 100 mg of calcium per 100ml).

While it may seem like a bit to spend on supplements I see it as a small upfront cost to hopefully avoid higher costs later in the form of hospital visits, medications and surgeries. Partnered with a diet based upon the principles laid out in ***The Proof is in the Plants***, this supplementation protocol leaves me feeling fantastic—both energetic and strong—and has consistently produced perfect blood work.

### SIMON'S EVERYDAY SUPPLEMENT ROUTINE



Eimele's Essential 8



Algae Oil (840 mg)



Red Algae Calcium Powder  
(for fortifying plant-based milk)

## PART TWO

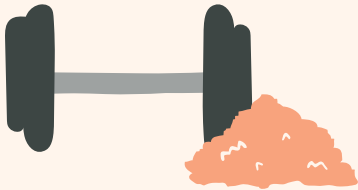
# PERFORMANCE NUTRIENTS



# PERFORMANCE NUTRITION

PERFORMANCE NUTRIENTS	
PROTEIN	ESSENTIAL AMINO ACIDS
CREATINE	BETA-ALANINE
CAFFEINE	NITRATES
L-CITRULLINE	

(As required based on athletic endeavours)





## For athletes and anyone wanting to build lean muscle

As there are so many brands and flavours of plant protein across the world, I'm always hesitant to share my favourites! Particularly given that taste is very subjective! So, what matters more here is the form, dosage and special notes. The brands I've recommended below are those that meet the dosage requirements and, in my opinion, taste great. My recommendation for you is to take the principles of what makes a good plant protein and then do some testing based on what's available in your area and find one that tickles your taste buds. It may be the same brands and flavours that I have on rotation, or equally, it may not.

For more information on plant protein (including plenty of myth- busting) and protein distribution to maximise lean muscle growth, refer to Part 3 of ***The Proof is in the Plants***.

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### FORM

Pea and Brown Rice Protein Blend

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### DOSAGE

A serving should contain around 25 g of total protein and 2 g of leucine

This is the level of Leucine that has been shown to maximally trigger what is known as ***Muscle Protein Synthesis***— - the physiological process that occurs after exercise responsible for our muscles adapting and growing bigger and stronger

For athletes and anyone wanting to build lean muscle

## BRANDS

-  **Macro Mike Original Peanut Butter Protein** (1.8 g of leucine per serving, so I recommend a heaped scoop)
-  **White Wolf Vanilla, Chocolate or Iced Coffee Vegan Protein** (heaped scoop to provide 25 g of protein). While this is a straight pea protein (not a blend of plant proteins), it has a vegan amino acid blend added to it to create an optimal amino acid profile
-  **Vedge Nutrition Organic Plant Protein** (over 2 g of leucine per serve)

## NOTE

The reason I recommend buying a blend is that you will get a more optimal amino acid profile when two or more plant proteins are blended together.

For athletes with specific performance and/or body composition goals

In *The Proof is in the Plants*, we spoke about optimising our diet to promote weight loss and build muscle. In the building muscle part, I mentioned the benefit of leucine and, in particular, hitting what's known as the leucine threshold (2–3 g) for those who really want to optimise their diet to the nth degree. While this leucine threshold can be reached by eating plant-based foods, or having a protein shake, sometimes an essential amino acid (EAA) powder can be handy for those times when you don't necessarily feel like having a heavy meal, or know you are going to consume a low-protein meal - particularly for plant-based athletes who are likely to have less leucine in their diet. Personally, I recommend saving your money and just buying a good protein powder, but I've included EAA powders here anyway for interest's sake.

## FORM

Essential Amino Acid Powder

## DOSAGE

A serving should contain over 2 g of leucine. (Some brands don't state the actual content of the amino acids— - try to avoid these)

## BRANDS

- ◆ **White Wolf Vegan Aminos** (flavoured)
- ◆ **My Protein** (unflavoured or flavoured)
- ◆ **ATP Science Vegan Aminos** (Need to have 1.5 serves to exceed 2 g of leucine)
- ◆ **Rule 1 Essential Amino 9:**  
USA  
Australia

## NOTE

If you are specifically wanting to avoid animal products, be sure to look for a vegan EAA product (most EAA's are derived from dairy).

Anyone who is looking for improvements in strength (and a little brain boost) should consider supplementing with 5 g of creatine monohydrate per day— - one of the most studied supplements with proven efficacy and safety (Safety even shown at a super high dose of 30 g/day for 5 years). Benefits from creatine supplementation are likely to be greater for vegetarians and vegans owing to their lower baseline creatine levels.<sup>18</sup> By itself, creatine monohydrate is flavourless and can be blended into water, a protein shake or smoothie.<sup>19</sup>

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**FORM** Creatine Monohydrate

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**DOSAGE** 5 g per day (no need to perform creatine loading<sup>20</sup>). Some evidence to suggest that consuming creatine with a carbohydrate rich meal may increase muscle uptake

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**BRANDS**

- ◆ As there are thousands of brands selling this globally, and it's all the same, I recommend finding a cost-effective creatine monohydrate local to you that is free from added ingredients
- ◆ I personally take **Optimum Nutrition's Gold Standard PRE Advanced** 30 minutes before training, which is a pre- workout blend that contains 5 g of creatine along with other evidence-based ingredients such as beta-alanine
- ◆ Another one I have taken before which is a straight creatine monohydrate is from **ATP Science**.
- ◆ I also recommend **Vedge Nutrition Creatine+**.

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**NOTE** Some people get mild gastrointestinal symptoms with creatine supplementation. If this occurs, titrate the dosage down to a comfortable level and try spacing it out (e.g. 2 servings of 2.5 g per day).



Supplementation with Beta-alanine, a non-essential amino acid, has been shown to improve performance during high-intensity activity. How so? Think of it like this. When we exercise, our body generates energy. A byproduct of energy production is the production of free radicals. These free radical molecules are unstable, and if left to run their own course, cause fatigue and damage to our tissues. However, when we have good amounts of freely available beta-alanine, our body produces more carnosine—an important antioxidant molecule that stabilises the free radicals produced during exercise, allowing us to perform better. Because vegetarians tend to have lower levels of carnosine concentrations, it's generally thought that vegetarians and vegans will benefit from beta-alanine supplementation more than omnivores.<sup>18</sup>

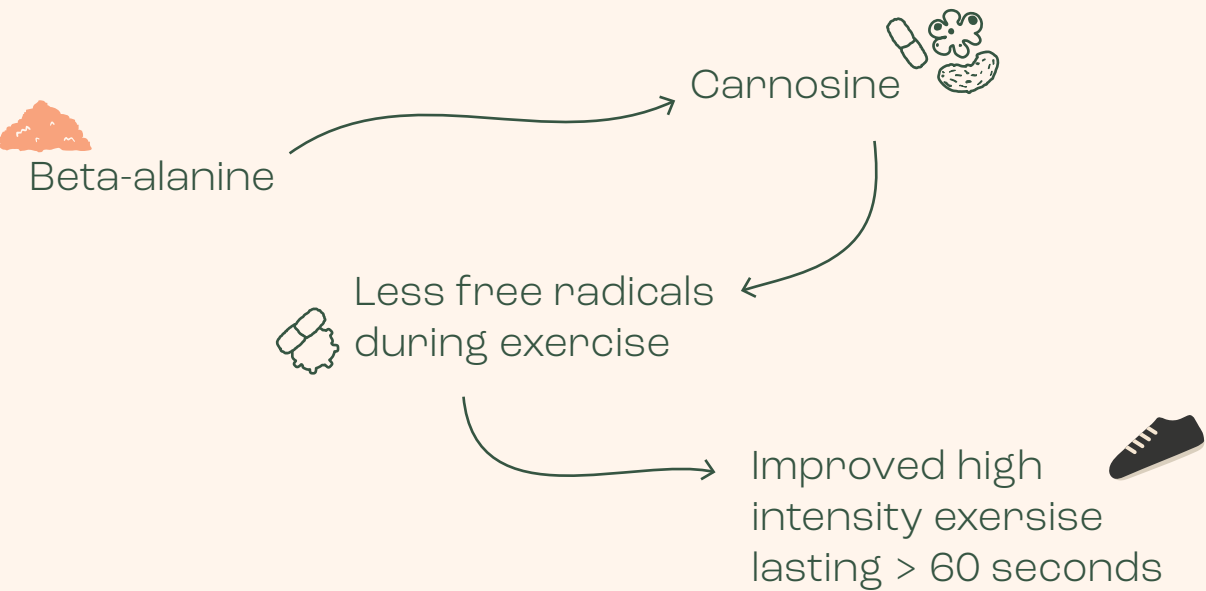
**FORM**

Beta-Alanine

**DOSAGE**

~ 4–6 g per day <sup>21</sup>

More specifically, 65 mg per kg of body mass.<sup>18,22</sup> For example, if you weigh 70 kg, that's 4550 mg or 4.55 g of beta-alanine.



## BRANDS

- ◆ **Thorne Sustained Release Beta-Alanine**
- ◆ **ATP Science Beta-Alanine**
- ◆ **Bulk Nutrients Beta-Alanine**  
(cheapest option)
- ◆ As mentioned earlier, I personally take **Optimum Nutrition's Gold Standard PRE Advanced** 30 minutes before training, which is a pre- workout blend that contains 3.2 g of beta-alanine along with creatine

## NOTE

Some people may experience paraesthesia (tingling) after ingesting Beta-alanine. If you do, and you don't like the feeling, you will likely benefit by splitting your intake across 2 servings or finding a sustained release formula.<sup>21,22</sup>

Taking Beta-alanine with a meal may improve its effectiveness.

This is a supplement that is proven for high- intensity exercise lasting for more than 60- second bursts. So, it's great for sports or exercise that requires lots of repetitive high- intensity bursts. Like resistance weight training or even tennis. However, while we currently know it's beneficial for exercise lasting between 0–25 minutes, more science is needed to test whether that benefit is sustained for longer training sessions.

Along with Creatine and Beta-Alanine, there is strong evidence to support the supplementation of caffeine for performance optimisation - for both endurance and strength activities. Unless you are ultra sensitive to the effects of caffeine, consuming 3–9 mg of caffeine per kg of body weight 30–90 min before exercise is likely to improve your performance. For a person who weighs 50 Kg this works out to be 150–450 mg of caffeine (a standard single shot coffee contains around 60 mg of caffeine).<sup>23,24</sup> Personally, while I do drink coffee (1 per day), I often take a pre-workout powder (mentioned above) that contains 300 mg of caffeine. Keep in mind, if you are pregnant or breastfeeding, it's recommended to restrict your caffeine intake to 200 mg a day, which is around three cups of coffee or six cups of tea.<sup>25–27</sup>

### DOSAGE

3–9 mg per kg of body weight

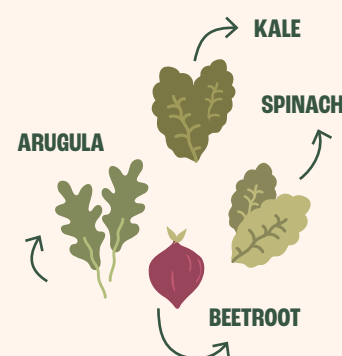
E.g. For a person who weighs 50 Kg this works out to be 150–450 mg of caffeine (a standard single shot coffee contains around 60 mg of caffeine)

### TIMING

30–90 min before exercise

## Two Main Sources of Dietary Nitrates

1. Naturally found in plant foods. Two of the best sources are dark leafy greens (kale, spinach, arugula etc) and root vegetables such as beetroot.
2. Added to various foods, such as processed meats (e.g salami), as a preservative.

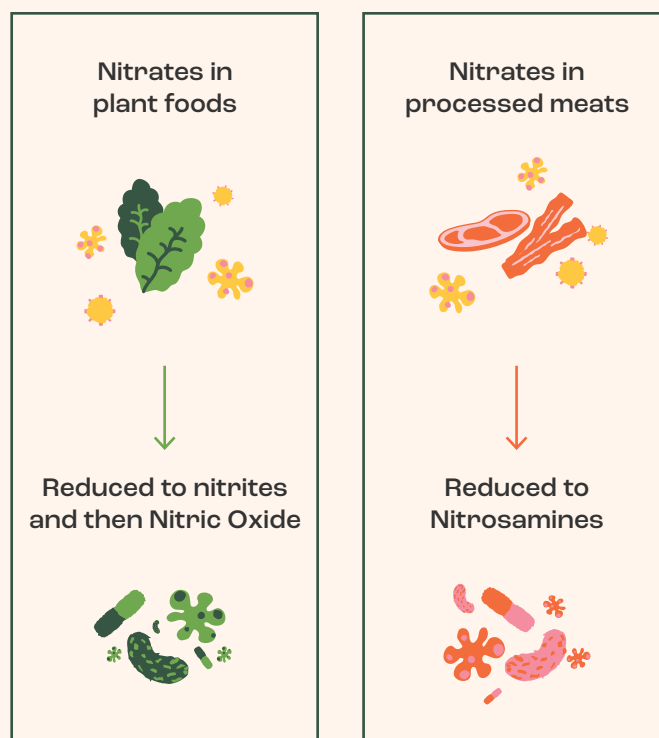


## The Fate Of Nitrate Depends On Its Source

Whereas increased nitric oxide production has been shown to improve cardiovascular health, and performance, N-Nitrosamines have been shown in mechanistic studies to be carcinogenic (cancer causing). This is one of the mechanisms that may explain why processed meats are associated with an increased risk of developing colorectal cancer.

## The Oral Microbiome Matters

Bacteria located on the dorsal surface of the tongue are responsible for about 20% of plant nitrates being reduced to nitrites. In subjects with normal and high blood pressure, studies have shown that the use of mouthwash, with antibacterial ingredients such as Chlorhexidine, blunts nitrate to nitrite reduction and results in a slight increase in blood pressure.





## Plant Nitrates and Performance

Several studies have shown that plant nitrates allow subjects to perform more work for the same energy cost. Either through maintaining the same work rate for longer, or by producing greater work rate over the same period of time. This improved exercise efficiency is explained by subjects being able to produce the same output with less oxygen uptake. This has been observed during both endurance and strength exercise.



## Non-trained versus Trained Individuals

It's important to note that benefits seem to be greater in non-trained people (recreational athletes) than trained people (elite athletes). It seems that as someone becomes more aerobically fit the ability to further improve exercise efficiency decreases.

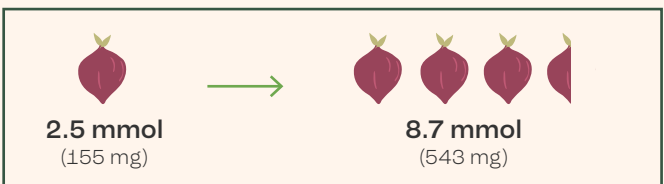






## Nitrate Supplementation Protocol

The ergogenic benefit of dietary nitrates depends on a few things. Firstly, the dose matters. Current data suggests targeting >8.5 mmol (527 mg) around 2.5 hours before exercise is optimal for improving exercise efficiency and performance.

1 medium beetroot is about 110g and contains 2.5 mmol (155 mg) of nitrates. So 3.5 medium beetroots would provide sufficient nitrates (8.7 mmol or 543 mg) to reach this level.

Another option other than straight beets, is a green smoothie with beets, or a green salad with beets. The amount of nitrates in lettuce, spinach and arugula are shown below.



FOOD	SERVE	NITRATES
 Beetroot	1 medium	2.5 mmol
 Lettuce	1 cup (fresh)	1.5 mmol (93 mg)
 Spinach	1 cup (fresh)	1.04 mmol (64 mg)
 Arugula (Rocket)	1 cup (fresh)	0.84 mmol (52 mg)

L-citrulline supplementation increases levels of arginine, an amino acid that boosts the production of nitric oxide which opens up our blood vessels and improves blood flow. Due to the way we digest L-citrulline, it is actually better for boosting levels of arginine and nitric oxide than taking arginine itself.<sup>28</sup> The idea here is that as our blood vessels open up (vasodilate) and we get more blood flow to the muscles, our performance improves. To date the evidence is somewhat conflicting, with trials looking at both resistance and endurance exercise showing both benefit and no benefit to L-citrulline supplementation.<sup>23</sup>

Thus, based on today's evidence it seems that Nitrates are a more effective supplement when it comes to boosting nitric oxide levels and enhancing performance

This doesn't mean there is no point in testing it out - especially given that it appears to be a very safe supplement to take. We just need more studies to better understand who is likely to see benefit and who isn't. In the meantime if you are a competitive athlete looking for an edge, and can justify the cost, it may be a supplement you want to put to the test (as an alternative to Nitrates). Dose wise you're going to want to try out 6–12 g per day about an hour before your exercise.

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**DOSAGE**

6–12 g per day

---

**TIMING**

About an hour before exercise

So what's this look like for me personally? Given all of us have unique bodies, training schedules and goals I'm really only including this for interest's sake. I encourage you to use the information in this guide and ***The Proof is in the Plants*** to tailor a supplement protocol that's going to provide your body what it needs.

### TO KEEP IT NICE AND SIMPLE, I STICK TO TWO PRODUCTS:



1. I have 1 x 30 g serve of plant protein on training days. If it's a very heavy day I will sometimes have 2 x 30 g serves but not always. I would prefer to eat more whole foods however it does depend on my schedule on any particular day. I rotate the brands of protein that I take to keep things interesting, always looking for a plant protein that delivers 2–3 g of leucine per 30 g serve. More often than not that's a blend of pea and brown rice protein.



2. Pre-workout I have a blend that contains creatine, beta-alanine, l-citrulline and caffeine. **Optimum Nutrition's Gold Standard PRE Advanced**



3. Where possible I also have beetroot powder 2-3 hours prior to my workout.

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# ADDITIONAL RESOURCES

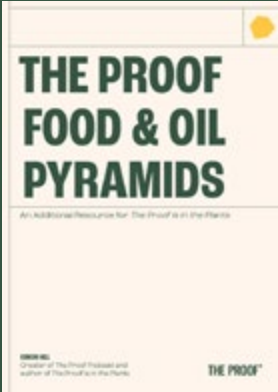


# ADDITIONAL RESOURCES TO SUPPORT THE PROOF IS IN THE PLANTS



## TRACKING YOUR PROGRESS

Tools to help you track your progress as you adopt a plant-based approach.



## THE PROOF FOOD AND OIL PYRAMIDS

A colour copy of The Proof food and oil pyramids.

## BLOOD TEST GUIDE

The laboratory tests you should consider speaking to your doctor about to objectively monitor your health status.





# TWO WEEK MEAL PLAN

Experience the benefits of eating more plants.



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- Simple, delicious and nutritionally-balanced recipes created by a nutritionist
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- Complete nutritional breakdown for each recipe

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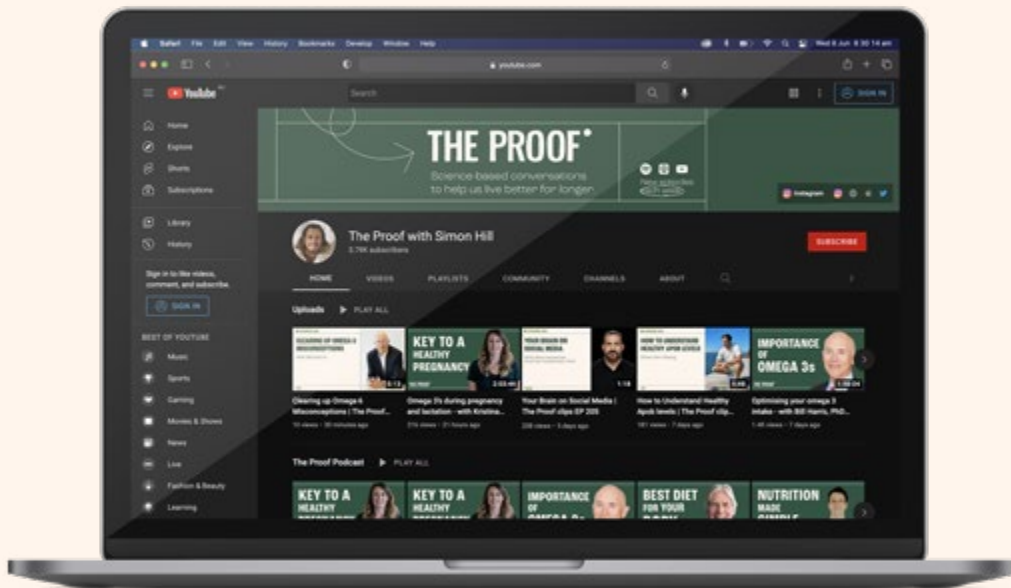


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