

5% Nutrition Core Beet Root with Added S7

written by Mike Roberto | May 4, 2022

The legend of Rich Piana is back, and this time his brand 5% Nutrition is doing exactly what they should be – bringing *more pumps* to your workout! Expanding the 5% Core Line, the team has another way to naturally boost nitric oxide production:

5% Nutrition Core *Beet Root* Extract



Like most other products from their Core Series, 5% is taking a *dual-ingredient* approach, going with a naturally-sourced, synergistic blend that's above and beyond other beet root extracts.

In this case, each scoop has 6 grams of nitric oxide boosting beet root powder boosted by a 50 milligram dose of S7, which contains 7 antioxidant ingredients shown to improve nitric oxide bioavailability.

Altogether, this means more pumps (and lower blood pressure), which can help you perform and feel better in and out of the gym. Keeping things natty, it's naturally flavored and naturally sweetened with monk fruit and stevia.

Below, we take the deep drive into beet root, its main constituents, and why they're so beneficial for health:

Rich Piana 5% Nutrition Core Beet Root – Deals and Price

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5% Nutrition Core Beet Root Ingredients

In a single 1-scoop serving of *Core Beet Root* from *5% Nutrition*, you get the following:

- **Organic Beet Root Powder – 6,000 mg**

	Amount Per Serving	%Daily Value*
Calories	20	
Total Fat	0 g	0%
Saturated Fat	0 g	0%
Trans Fat	0 g	**
Cholesterol	0 mg	0%
Total Carbohydrate	4.5 g	2%
Dietary Fiber	0 g	0%
Total Sugars	0 g	**
Added Sugars	0 g	0%
Protein	1 g	
Organic Beet Root (Beta vulgaris L.) Powder	6,000 mg	**
57% Green Coffee (Coffea arabica) Bean Extract, Green Tea (Camellia sinensis)(leaf) Extract, Turmeric (Curcuma longa L.)(rhizome) Extract, Tart Cherry (Prunus cerasus)(cherry), Blueberry (Vaccinium corymbosum)(berry), Broccoli (Brassica oleracea italica)(whole), Kale (Brassica oleracea acephala)(leaf)		

*Percent Daily Values are based on a 2,000 calorie diet.
**Daily Value not established.

Other Ingredients: Citric Acid, Silicon Dioxide, Natural Flavors, Stevia Leaf Extract, Monk Fruit Extract

All natural, including flavoring and sweetening!

Beetroot, in all of its forms (powdered, blended, eaten whole – whatever!), can help athletes get a greater pump in the gym by boosting *nitric oxide (NO)* production via the nitrate-nitrite pathway.[1,2]

Why We Want More Nitrates (Boosting Nitric Oxide)

Whenever we consume a food high in *nitrates*, like beets, those nitrates are

converted into *NO* by our salivary glands.[3-5]

The reason we want *NO*, and the reason it gives us a great *pump*, is that more nitric oxide production means *more vasodilation*[6] – the process by which blood vessels *expand* and allows more blood to flow through them.

Increased blood flow means increased efficiency of oxygen and nutrient delivery, which means *better performance*[7,8] and *faster recovery*.[8,9]



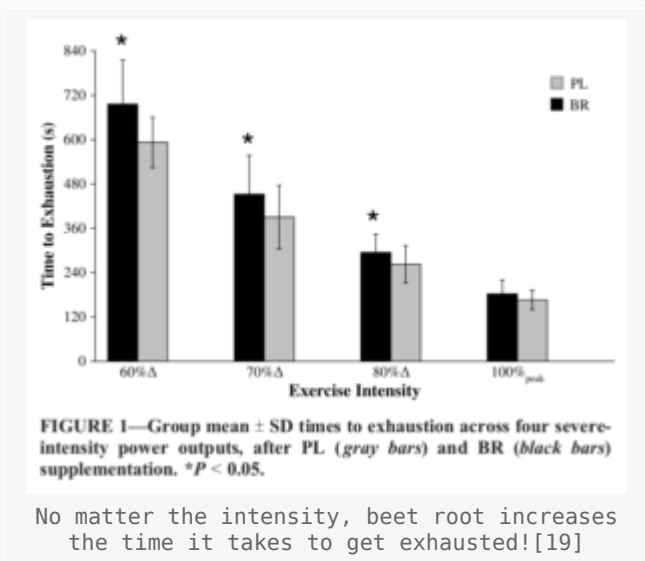
In 2013, the *International Journal of Sport Nutrition and Exercise Metabolism* published a big meta-analysis[10] that found supplementing with nitrates can consistently *increase*:

- **Circulation**[11]
- **Aerobic efficiency**[11-14]
- **Strength**[15,16]
- **Recovery speed**
- **Cellular energy**[16-18]
- **Endurance / time to fatigue**[19]

Beetroot also has Betaine

Another key component of beetroot is **betaine**, sometimes referred to as *trimethylglycine* or *TMG*, whose *ergogenic properties* are well attested to in the research literature.

Similarly to *creatine*, betaine increases the body's capacity to work (the definition of an ergogenic aid). But whereas creatine increases energy via *phosphate* donation, betaine is a *methyl* donor.[20] As such, it can lower blood homocysteine levels,[20] an important factor in cardiovascular health.



Betaine is also an *osmolyte*, a compound that positively affects the water balance in cells. Betaine supplementation can keep cells optimally hydrated[21,22] and thereby protect them against the *heat shock*[23] that you might experience during a long or intense athletic effort.

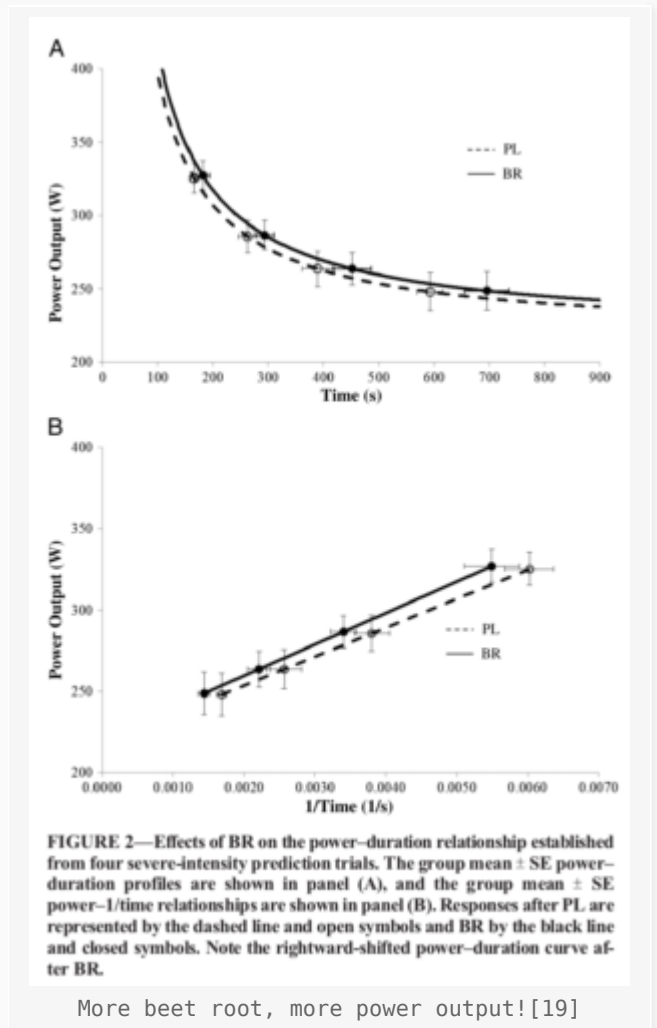
Although a great deal of research has corroborated the theory that betaine can increase athletic performance,[24-29] the dose used in these studies were pretty large – for example, the revolutionary studies from 2013 and 2014 that showed significant benefits in body composition from betaine supplementation? Both used a whopping *2500 milligram daily dose of pure betaine*. [30,31]

Unfortunately, we probably don't have such high amounts here – the betaine content of whole beets is only between 3 and 5 milligrams per gram.[32] So from 6 grams of beetroot powder, we could expect *maybe* 30 milligrams of betaine.

Nonetheless, the betaine inside could still give you *some* benefit, even in low concentrations – it's just going to be more subtle than the 5 pounds of fat loss observed in the two studies we mentioned above.

Betalains: Anti-Inflammatory Pigments

As anyone who's ever eaten beets can attest, the pigments in the bright purple vegetable are *strong* and *intense*. And although the tendency of beets to stain nearly everything they touch isn't great, don't let that dissuade you from trying the supplement or eating the vegetable. It turns out these pigments, called *betalains*, have pretty phenomenal health benefits.



Pigments like betalains are commonly used in cosmetics, but it has numerous additional purposes: plants evolve these compounds because they're potent *chemical defenses*, helping to protect the plant against microorganisms, fungi, and even insects.[33] Betalains can actually destroy microbes by attacking their cellular membranes![34]

Betalain-containing *betanin*, a natural food coloring derived from beets, has long been known to have potent anti-oxidant and anti-inflammatory properties.[33]

Given the close connection between chronic inflammation, oxidative stress, and diabetes, it isn't totally surprising that when researchers administered a betalain-rich extract sourced from *chard* (a cultivar of the beet leaf) to diabetic mice, they actually showed a significant *decrease* in their excessively high blood sugar levels[35] – a pretty impressive *40% reduction*.

That's potentially due, at least in part, to the high *quercetin* concentrations found in beets.[36] Quercetin is an awesome antioxidant that we've written about many times before. Among other properties, it has the ability to block the action of an intestinal transporter called *glucose transporter 2*. [36] By inhibiting GLUT-2, quercetin helps partially prevent the absorption of

whatever carbohydrates you've ingested, thus keeping your blood sugar levels within acceptable bounds.[36]

Betalains have also been shown to inhibit plaque formation in Alzheimer's[37] through its anti-oxidant effects, and may even inhibit the growth of cancer cells.[38]

- **S7 – 50 mg**

The second and final ingredient in this short but focused formula is the **S7 blend**, a trademarked mix of botanical extracts.



The image is a promotional graphic for a supplement. It features a central white tub of 'Kill It' pre-workout in 'Push Pop' flavor. The tub has a black and white photo of a man with a gun on the label. The background is black with orange and white splashes. In the top right corner is the 'PP PRICEFLOW' logo. At the bottom, there is a red banner with white text that reads 'RICH PIANA'S KILL IT IN PUSH POP FLAVOR' and 'PRICEFLOW ARTICLE'. Below the banner is a paragraph of text.

Need more beta alanine if you're not drinking 4 scoops of ALL DAY all day? Then take **KILL IT** pre workout – The Push Pop flavor is an unmistakable throwback to those orange & cream push pops from childhood!

Although blends like this are typically thought of as antioxidant ingredients, this one actually functions pretty well as a nitric oxide protector. In fact, even though the dose here is pretty small in absolute terms, the effect size is still impressive. A scientific study on the S7 blend found that this **50 milligram dose increased bioavailable NO by an incredible 230%**. [39]

Let's take a look at how *each ingredient* contributes to the overall effect of this blend:

- **Green Coffee Bean Extract:** what makes a coffee bean *green* is the fact that it hasn't been roasted. Compared to beans that *have* been roasted, green coffee beans have significantly higher levels of *chlorogenic acid*, [40] an antioxidant polyphenol with anti-inflammatory [41] and anti-hypertensive [42] properties. It can also increase the responsiveness of

vascular tissue to exercise,[43] potentially increasing the benefit you get from exercise.

- **Green Tea extract:** high in *catechins*,[44] a class of antioxidant polyphenols of which *epigallocatechin gallate* (EGCG) is undoubtedly the most well-known. A plant compound, EGCG increases the body's rate of fat burning,[45,46] which has mild ergogenic effects and can help us manage weight. It can also interfere with *carbohydrate absorption*,[47] which is another way to keep the pounds off.



Turmeric extract, standardized for *curcumin*, which is a bright yellow phytochemical with major anti-inflammatory effects. Curcumin has been studied for its ability to help fight diseases that are associated with chronic inflammation.[48,49]

- **Tart Cherry extract:** has been shown to increase exercise performance by upregulating NO![50,51]
- **Blueberry:** the small berries can actually improve *endothelial function*[52] by increasing NO production.[53]
- **Broccoli extract:** standardized for *sulforaphane*, another compound that helps vascular health. This one doesn't boost NO, but rather, *protects mitochondria against potential toxicity*. [54]
- **Kale:** a great source of *quercetin*, which we discussed above, and *kaempferol*. [55] Both of these antioxidants have a documented ability to reduce blood pressure[56] and, additionally, treat a variety of illnesses. [57]



Note that this formula brings 4.5 grams of carbohydrates inside, which certainly won't hurt the pumps either!

Boost your workout with More Beet Root

5% Nutrition has done a great job of continuing their Core line, which nearly *always* has just a bit more than single-ingredient formulas. Their pairings have consistently made sense, boosting like-minded ingredients so that you get *more* than what you think you're getting.

In this case, we have a "traditional" nitric oxide booster, with a more novel nitric oxide bioavailability enhancer. It makes sense, and is a pair of ingredients not found in many of the other Rich Piana workouts at 5% Nutrition.

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