

The Latest Supplement Myth

Contributed by David Barr
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You're probably not going like what I'm about to tell you -but like it or not, it's going to change the way you look at post-workout nutrition. The problem is that there's a myth that's been floating around the bodybuilding scene for a couple of years now, and as you've surmised from the title, it involves the newest sexy carbohydrate: Waxy Maize Starch (WMS).

Waxy Maize Starch: The Latest Supplement Myth

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A Waxy Background

If you've never heard of WMS then you're probably safe from the misconception that it's an especially fast carbohydrate, great for post-workout recovery and pre-training muscle pump. Sadly, WMS isn't just disqualified from being a fast carb, it's actually a slow carbohydrate! This means that it's the exact opposite of what we want for nitric oxide stimulation and recovery!

So far, four studies have used WMS as part of their protocol, and the results aren't what you've come to expect. The first of these involved trained athletes - a rare find that helps make the data more applicable to us- and compared WMS to both dextrose and a slow starch (2). Not only did the WMS group have a similar insulin and blood sugar response than slow starch, but it was also three times lower than the plain dextrose group. Even work output during cycling was similar between all groups.

Another study by the same group compared glycogen resynthesis and cycling performance of WMS to dextrose, maltodextrin, and a slow starch (4). Other than the slow starch yielding poorer glycogen resynthesis rates than the other three groups, there were no significant differences. This doesn't seem too bad, but it's a far cry from the elevated performance we've come to expect from WMS.

One of the more surprising studies looked at the glycemic index of WMS, performed by one of the researchers who invented the very concept (1). It was compared to maltodextrin, sucrose (table sugar), and a slow starch. What's interesting is that the WMS was not only outperformed by the maltodextrin and even the table sugar, but it was bad enough to be called a "low glycemic index treatment". Stated differently: it's slow.

Breaking News!

The last relevant study is so new that it's not even published yet.

A research group out of Purdue University dug the final hole for WMS, by directly comparing the glycemic response of WMS to maltodextrin (with a little table sugar), and white bread (7). Once again, the WMS was blown away by maltodextrin and white bread! Now to be fair, the blood sugar response was similar to the bread (which is hardly a good thing), but the insulin stimulation from WMS was significantly lower.

There's another human WMS study floating around that makes WMS look only slightly worse than dextrose (3). But in this study, the WMS was boiled and given to the subjects as a paste, which probably doesn't apply to too many of you. Even if you were revisiting your childhood and were eating WMS Play-Doh (coloring optional), the result was still inferior to dextrose.

Spawning The Myth

At this point you're probably wondering why you've never seen this research before, and more importantly, why have so many considered WMS the fastest carb available. The answer to the first question is easy: no one knows about it. I even called several of the top companies that sell WMS, and they could not provide me with a single reference to support the WMS claims.

To answer the second question we must quickly delve into a bit of history. If you look at most of the "supporting literature" on WMS, you'll see studies by Leiper et al. (2000), or Piehl Aulin et al. (2000). These studies did in fact show that the carbohydrate used was far quicker than anything we have available. It got into the bloodstream at an unusually high rate, and restored glycogen exceptionally fast. So far so good, right?

This research was then referenced on a now-defunct product called Vitargo CGL, which had waxy maize starch listed on the back label in big letters. Looking up the aforementioned studies (5,6), it was very clear to see that "maize starch" (similar to the label) was used. Following this tenuous thread, it was concluded by most (myself included) that WMS itself was a super carb.

All of this seems fine until we look more closely at the details, in which case we see that the popular research was conducted on a patented carbohydrate extract called Vitargo. Although the control group used maltodextrin made from maize starch (not even waxy maize starch), it was the Vitargo group that showed the superior results —and it was extracted from potato starch (5,6)! In other words, WMS wasn't even used in these groundbreaking studies, but the performance of the Vitargo has been erroneously attributed to it ever since.

Lastly, you're probably interested in how a WMS-based Vitargo CGL product got away with referencing potato starch-based studies. As a patented extract, the Vitargo itself (now available through GENR8) can be pulled out of any starch, including: waxy maize, potato, and barley. It's like extracting casein from milk —you can get it from any variety, but the performance remains.

Conclusions

If you're like me, you're probably a little pissed off at the real WMS findings, especially having spent the time and money using this product. But it's important to remember that we were all fooled by the myth; you're not alone. Having already destroyed a few big bodybuilding myths, I've learned that that the key is to simply adapt and move on, but never forget the lesson.

Raise your expectations. Raise The Barr!

David Barr is widely recognized as an industry innovator and Mythbuster, most recently for his work on developing The Anabolic Index. As a strength coach and scientist, he brings a unique perspective to the areas of diet, supplementation, and training. His research experience includes work for NASA at the Johnson Space Center, as well as studying the effect of protein on muscle growth in the now famous muscle metabolism lab at the Shriner's Burns Institute. He holds certifications with the NSCA as well as USA Track and Field, and is the Official supplement consultant for Super Human Radio. He can be contacted through his website:

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