

GETTING TO THE BOTTOM OF
**THE COMPARATIVE GUIDE TO
NUTRITIONAL SUPPLEMENTS**

IS IT REALLY A USEFUL TOOL FOR CHOOSING A VITAMIN SUPPLEMENT?

Getting to the Bottom of *The Comparative Guide to Nutritional Supplements*

Is it really a useful tool for choosing a vitamin supplement?

Choosing a multi-vitamin supplement can be a complex and confusing process—thanks, in part, to the wide range of opinions on what nutrients should or should not be in the “optimal” multi-vitamin formula. To make matters worse, there are differing opinions and conflicting research about nutrient forms and doses.

Adding to the confusion is the publication *The Comparative Guide to Nutritional Supplements* authored by Lyle MacWilliam, which claims to “assist in sorting through the maze of nutritional supplements available in the marketplace today.” A closer look at the facts shows that *The Comparative Guide* does nothing of the sort.

Despite MacWilliam’s assertions to the contrary, none of its recommendations are based in science. All of his sources are biased. And it quickly becomes clear that *The Comparative Guide* is a cleverly disguised marketing brochure for one product—USANA Essentials. An intelligent reader will have little difficulty spotting the problems in *The Comparative Guide*.

But, let’s give credit where credit is due. Not all of the information in *The Comparative Guide* is misleading. In fact, the first three chapters, which describe various diseases, free radicals, and the beneficial effects of antioxidants, are a good argument for proper nutrition.

While informative, these chapters appear to be designed to establish the author as an expert in nutrition. However, unlike other scientific reviews or publications, *The*

Comparative Guide was not peer-reviewed or edited by a credible scientific researcher, which is the normal practice for this type of publication. When MacWilliam outlines his standard for comparing the quality of various nutritional supplements, he obviously steps beyond his area of expertise.

Good Manufacturing Practices— Does Anyone Follow Them?

MacWilliam begins by attacking the quality control processes of supplement producers. After briefly describing how difficult and expensive it is to follow quality standards, he claims, “few companies adopt these costly and stringent criteria.” Of course, he offers no proof to back up this wild accusation. In reality, many, if not most, manufacturers of vitamin supplements in the U.S. and Canada do their best to comply with Good Manufacturing Processes (GMPs).

MacWilliam goes on to attack the “quality, purity and composition” of all supplements. His proof? One dubious reference to the purity of echinacea sold in the United States between 1908 and 1991. To back up his argument, MacWilliam has to go back to the beginning of the last century. He uses one very old fact about one ingredient to indict an entire industry. Making matters worse, he uses an ingredient, echinacea, which isn’t generally part of vitamin supplement formulas.

Make no mistake, there are differences in manufacturing processes that can affect the effectiveness



of the supplements available on the market today. And there is variation in the quality of nutrients available—not to mention significant disagreements over proper doses. A wise consumer will compare labels to see that the supplements she takes are made with the most bioavailable forms (made with nutrients that can actually be absorbed and used by the body). But she will have to look beyond *The Comparative Guide* to find honest, unbiased information about those supplements.

The Blended Standard—Arbitrary and Misleading

MacWilliam's benchmark for testing the quality of the supplements listed in *The Comparative Guide* is the self-developed "Blended Standard." He develops this standard by combining, eliminating, and/or averaging the recommendations of four "independent experts" who he suggests are authorities on nutrition and medical science. Interestingly, MacWilliam only uses recommendations that support his nutritional theory. A responsible researcher would examine all the data, including the scientific studies that disagree with his theories.

Exactly Who Are These Experts?

On closer inspection, these authorities are not independent. In fact, all four doctors (Passwater, Colgan, Murray, and Strand) have significant interests in several vitamin supplements currently for sale today. A recent search of Colgan's and Murray's websites turned up their own vitamin formulas for sale. Strand has recorded informational audio tapes and written several articles for USANA. Even Passwater, who has terrific credentials, is the Director of Solgar Nutritional Research, a leading producer of mass-market vitamin products. Could their financial interests in their respective vitamin products affect their "standards" for nutrition?

What about MacWilliam? Is he an expert? He is certainly well-read, but his research experience appears to be limited. His masters thesis, an investigation of radiated enzymes in rats, does not qualify him as an authority for establishing standards for optimal nutrition.

We should be clear. It is not our intention to attack the credentials of MacWilliam's four chosen experts. All four of these men have experience with nutritional products.

All four are knowledgeable. And all four are capable of providing advice on nutrition. However, none of them appear to be recognized as "nutrition experts" by the American Medical Association, the National Academy of Science, or the American Dietetic Association. And none of them are "unbiased" as Mr. MacWilliam would have readers of *The Comparative Guide* believe. And, interestingly, these four "experts" disagree drastically on which nutrients (and what amounts) belong in a multi-vitamin supplement.

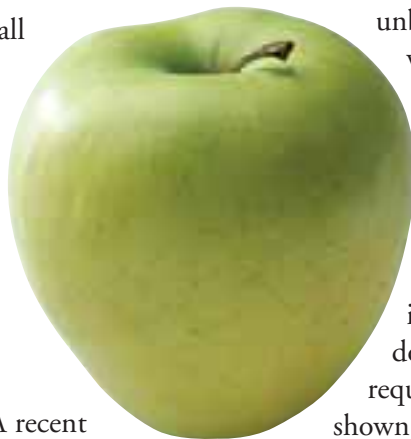
Is the Blended Standard Based in Science?

In *The Comparative Guide*, MacWilliam discusses at length the reasons for developing his Blended Standard. He claims it is a "scientifically based recommendation for optimal nutritional care." But closer examination will reveal that this is clearly what the Blended Standard is not. MacWilliam doesn't refer to a single scientific study in developing his standard. He doesn't rely on a single unbiased source for a recommendation. And, as we will see later, he clearly skews the data to favor a particular product—USANA Essentials. At best, his methods are careless. At worst, they are misleading.

In assembling the Blended Standard, MacWilliam tells us that at least two experts must recommend a nutrient dose to be included in the blended standard. But he doesn't follow his own self-imposed requirement. In the case of lutein (an antioxidant shown to promote eye health and reduce the occurrence of macular degeneration), only one of the four experts gives a specific recommended dose of lutein as part of a daily supplement. Yet, MacWilliam chose to add this ingredient to his Blended Standard.

Did he include it because the USANA formula also includes lutein? If so, breaking the standard unfairly skews the scores in favor of USANA. A standard is only a standard when it is carefully adhered to.

None of MacWilliam's experts agree on optimal nutrient doses. In some cases, one expert will recommend one nutrient that the others ignore. In other cases, an expert will recommend significantly more or less than the others. This difference in opinion among the experts makes the selection of an "optimal" dietary supplement virtually impossible to establish. So MacWilliam simply averages the recommendations to get his standard. This



is not a scientifically valid method for determining the optimal values for any nutrient.

The Problem with Averages

We've already noted the Blended Standard is derived from four potentially biased sources—without the added consideration of scientific research. But what about the



averages MacWilliam uses to come up with his standard? Can we trust them?

Let's look at the recommendations for Vitamin C. The four expert recommendations range from a high of 4,750 milligrams (mg) of vitamin C to just 550 mg. That's a huge range and should lead the reader to question whether one or more of the expert recommendations is an error. The average used for the Blended Standard is 1,888 mg. But three of the four

experts recommend taking far less than that. Dr. Passwater's recommendation of 4,750 mg skews the average significantly higher than the other "experts" say it should be.

The same thing happens in reverse with molybdenum, a trace mineral. Three of the experts recommend 50 micrograms (mcg) or more of this essential mineral. But Murray recommends just 18 mcg, which skews the average significantly downward.

The real problem here is that there isn't an agreed upon standard for "optimal" health. Some studies recommend more of certain nutrients than others. And the fact that MacWilliam doesn't use any scientific research or biological data to establish the Blended Standard should lead the reader to question its validity.

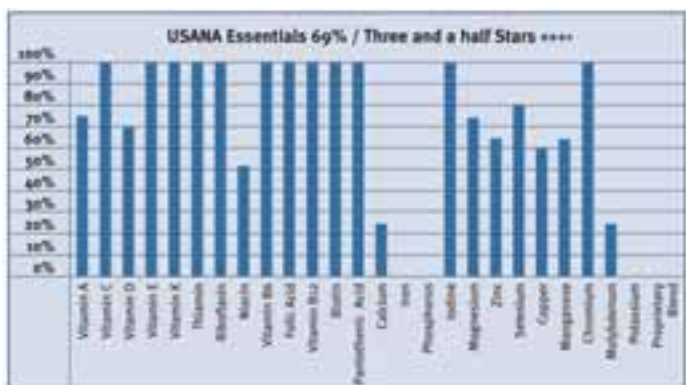
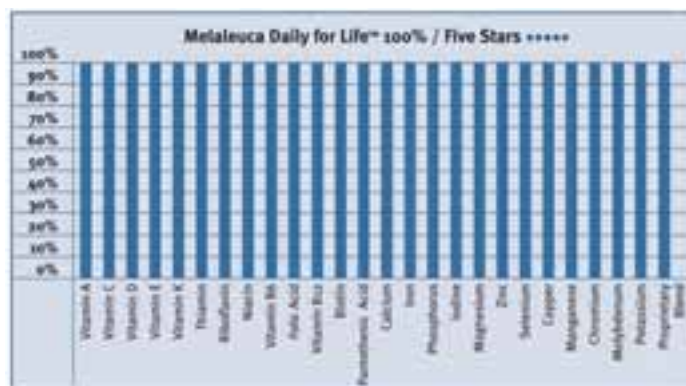
A complete review of several university-based studies shows a wide variance in the amount of vitamin C that research has shown can have a positive effect on health. Clinical studies have tested amounts ranging from

A Comparison of Melaleuca's *Daily for Life Pack*TM and USANA Essentials

To demonstrate how easy it is to skew data to make one product look better than another, we created a "New Standard" based on the nutrients available in Melaleuca's *Daily for Life Pack*, which includes the vitamin and mineral supplements, *Mel-Vita*[®], *Mela-Cal*[®], and *Cell-Wise*[®], plus a super-antioxidant, *PROVEXCV*[®].

Much like MacWilliam did with his Blended Standard and USANA Standard, we took the values for the nutrients in the *Daily for Life Pack* and assigned each ingredient a maximum value of 100%. Then, we compared each nutrient in USANA Essentials to the nutrients in *The Daily for Life Pack*. When Melaleuca's supplements are the standard, USANA scores a 69 (not quite three and a half stars) compared to *Daily for Life's* score of 100 (five stars). See the comparison charts.

Although the formulas for the products included in *The Daily for Life Pack* are based on research and have been shown to be effective, this comparison is simply intended to demonstrate that any formula can be the basis for a standard against which other products can be compared and found wanting. When seen in this light, USANA's Essentials are clearly found wanting.



100–1000 mg or more. So far, no one has discovered the “optimal” intake. The same is true for virtually every vitamin or mineral featured in the Blended Standard. Yet, MacWilliam claims to have the “optimal” dose, derived solely from his four experts.

In many cases, his experts and the Blended Standard recommend taking vitamins or minerals in amounts that exceed MacWilliam’s own “Long-term Upper Safe Levels.”

More Doesn’t Mean Better

Perhaps most significantly, MacWilliam completely ignores the effect of nutrient forms and absorption rates in his analysis, even though he admits that this can significantly affect whether or not a multi-vitamin supplement works. He claims, “While such considerations are significant in the overall determination of product quality, they require an exhaustive chemical analysis of each product and are, therefore, beyond the scope of this investigation.” In other words, MacWilliam fully admits that his comparisons don’t show that one product is more effective than another. Instead they show that one product has more of a particular nutrient than another.

Why is this important? Because more doesn’t mean better. Consider the trace element copper, essential for making adenosine triphosphate, which the body uses for energy. Copper comes in many forms, including copper sulfate, cupric acetate, alkaline copper carbonate, and cupric oxide. These forms are not equal. Cupric oxide is more difficult for the body to absorb, and therefore is more likely to pass through the body unused. The same is true for the different forms of iron, calcium, glucosamine, vitamin E, and dozens of other nutrients.

No matter how much of a nutrient a person consumes, if it isn’t absorbed by the body, it doesn’t do any good. But MacWilliam completely disregards this fact as he assembles his list of the “best” nutritional supplements. He doesn’t differentiate between the different forms of nutrients used in any of the 254 formulas he compares. The Standard assumes they all provide the same beneficial effect, when, in fact, they do not.

Just as important as nutrient form is the effective therapeutic dose which MacWilliam tries to establish with his Blended Standard. Unfortunately, by relying on his four experts instead of scientific data, he misses the mark. Take lutein for example. The Blended Standard calls for 600 mcg as the “optimal” level. But all reputable research indicates that doses lower than 6 mg a day provide little

or no benefit. USANA’s product scores very high against the Blended Standard in this category—even though, according to credible research, it doesn’t contain enough lutein to make a physiological difference.

Incidentally, when lutein is compressed into a pill form, it breaks down and can lose its effectiveness. So lutein in a pill form doesn’t provide the beneficial effects claimed by supplement manufacturers like USANA. MacWilliam completely ignores these facts.

Stacking the Deck

The Blended Standard is designed to guarantee that no vitamin supplement can achieve a higher score than the standards set by MacWilliam. By capping the values of the Blended Standard and not allowing any supplement to score higher than 100%, even when they provide a larger dose of a nutrient than the Blended Standard recommends, he stacks the deck in favor of the Blended Standard and USANA.

Once again, consider lutein. Products that contain the effective dose of 6 mg are given no more credit than products that contain the ineffectually small dose of 600 mcg. Both products would score a perfect 100% for that nutrient, even though one clearly delivers little or no benefit.

The same is true for vitamin E. The Blended Standard calls for 473 international units (IU). If a supplement contains more than 473 IU, it doesn’t receive any additional points in the score, despite the fact that some credible scientific research recommends doses as high as 800 IU a day for maximum antioxidant protection against heart disease. The Blended Standard is just slightly higher than the low of 400 IU recommended as the minimum for protection against heart disease.

USANA’s product contains just 450 IU of Vitamin E, so they score very high against the blended standard of 473. But a comparison product that contains nearly two times more Vitamin E (in keeping with the recommendations of some research) doesn’t score twice as high. It is capped by the Blended Standard—even though it may provide significantly more antioxidant protection. The data is clearly skewed to make USANA’s product appear to be better than it really is.

The standard also goes beyond vitamins and minerals to include herbals like bilberry extract, citrus bioflavonoids, and oligomeric polymer flavonoids. The recommended levels fall well below the effective doses

recommended by several recent studies. But, once again, USANA's product is made to look better than it is because the standard is set so low.

The USANA Standard

In addition to the Blended Standard, MacWilliam also compares all 254 formulas to the USANA formula. His reason for doing so is to show how each product compares to a "recognized industry leader." But MacWilliam has failed to tell us in what way USANA's product leads the industry. As we have seen above, a close inspection of ingredient levels shows that, at least in some cases, USANA isn't leading the industry at all.

There is no doubt that USANA's nutritional products have high levels of many nutrients. But MacWilliam doesn't offer any proof that these higher levels deliver a higher benefit, are more easily absorbed by the body, or that USANA uses the most bioavailable nutrient forms. The only proof he gives of their quality is the "fact" that USANA is listed in the *Physicians' Desk Reference*.

This is a lot like claiming to be a "Nobel Prize Nominee." Anyone can nominate himself for a Nobel Prize for the price of a postage stamp. The same is true for inclusion in the *Physician's Desk Reference*. A person or company simply pays a fee and provides the information they want included. It doesn't require testing or proof of quality. It's basically a paid advertisement and it is not an endorsement of quality or effectiveness.

MacWilliam's Motivation

Upon reading *The Comparative Guide*, it becomes obvious that it isn't an unbiased research report. It is a marketing piece created for USANA distributors and customers. Marketing phrases like "Check the rest—then, go with the best!" scattered throughout the book put the lie to the claim that this publication is intended to assist consumers in finding the truth about nutritional supplements on the market. There are other facts that suggest MacWilliam has a financial motivation for his so-called research. Consider the following:

- MacWilliam is a USANA customer (not an unbiased scientist) and has participated in online chat rooms promoting other USANA products.
- MacWilliam has participated as a featured speaker at USANA meetings.

- *The Comparative Guide* is sold on MacWilliams website in 50-packs at a discount, suggesting it is intended as a sales piece, not a reputable scientific survey.

- *The Comparative Guide* is also sold by a USANA affiliate as sales literature for its distributor sales force to use with potential customers.

- *The Comparative Guide* is clearly biased to give USANA's vitamin products the highest scores, despite the fact that USANA's product doesn't always provide the proven therapeutic dose or the most bioavailable nutrients.

Clearly, MacWilliam has a financial interest in promoting USANA products, even though many USANA distributors claim he has no association with the company other than as a satisfied customer.

Can You Trust the Comparative Guide? No.

MacWilliam claims that the "Nutrient Profile Score provides a rigorous and unbiased quantitative assessment of relative product value." But as we've seen, this is nonsense. The scores are prejudiced by using standards set by biased experts and by using the USANA formula as a standard without any scientific support for doing so. Additionally, a number of his recommendations are inconsistent with scientifically established government guidelines and recommendations by the National Academy of Science.

What MacWilliam has created is impressive. It appears to be a comprehensive comparison of vitamin formulas and is clearly intended to lead the reader to believe that USANA's formula is the best. The graphs look complicated and sophisticated, when in reality they are simply percentage comparisons against a flawed standard. They don't measure nutrient quality or bioavailability. And they don't provide any information that a reader will find useful in her decision-making process. The informed reader must look elsewhere before she selects her vitamin supplement.

A Note about the Comparison Between Melaleuca's *Vitality Pak*[®] and the Blended Standard in *The Comparative Guide*

Although MacWilliam notes that *The Vitality Pak* formula he selects to compare with the Blended Standard is a Canadian formula (noted with a Canadian Flag in the corner of the comparison chart), he does not make it clear that this is a different formula than the one sold in the United States, Australia, and other countries around the world. Both the blend standard and the USANA standard are based on U.S. formulas. Because Health Canada places additional restrictions on multi-vitamin formulas, the Canadian formula's nutrient quantities and nutritive values are different from the formulas sold elsewhere. Using this formula skews the data much lower and makes an inaccurate comparison. Many USANA distributors have unfairly or unknowingly used this inaccurate comparison to convince customers that they should avoid Melaleuca's *Vitality Pak*.

Comparing the Canadian formula with an American formula of USANA's vitamins is like comparing apples to oranges and pronouncing one better than the other. But it

doesn't really matter. As we've seen in the preceding pages, there is no value in comparing any formula to a biased standard. Data can be manipulated to establish that one is better than another—when in reality the opposite may be true. The wise consumer will seek real scientific data elsewhere.

When it comes right down to it, short of in-depth chemical analysis and cellular absorption studies, the best way to determine if a vitamin supplement works is to try it. That's why Melaleuca offers its exclusive 90-Day Challenge. Put *The Vitality Pak* to the test. Use it every day for 90 days—if you don't feel a significant difference in your energy and vitality, we'll refund your money—guaranteed!

For more information about Melaleuca's *Vitality Pak*, *Daily for Life Pak*, or other nutritional supplements, contact a Melaleuca Marketing Executive or see the latest issue of *Melaleuca Country: The Wellness Magazine and Catalog*.



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