



The Biz: The History of Protein Powders

by Steve Colescott

It all began with barbells, weights, and dumbbells. Joe and Ben Weider's I, Brute Enterprises decided to square off against Bob Hoffman's York Barbell for the lucrative weightlifting equipment business. With commercial gyms being a rare luxury and weight training still largely being viewed as a subversive activity, home gyms were the only option for most muscle wannabes.

As a business, barbell production had some inherent limitations. For the most part, barbell sets offered a one-time purchase. The initial barbell set (made from cast iron alloys) usually lasted forever. The minority of customers that stick with training may purchase a few more plates as their strength progresses or perhaps add a bench or power rack but, because these items are pretty much indestructible, they are just as likely to have these handed down from an older relative or bought second-hand than purchased new.

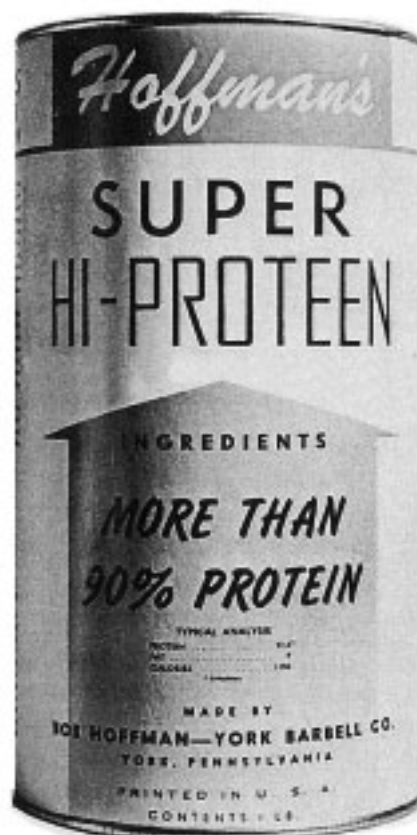
During the fifties, Hoffman discovered that nutritional products offered a decided advantage -these consumable muscle-building products (such as his Super Hi-Proteen and Hoffman Germ Oil Concentrate) provided repeat customer sales. The Weiders, as well as a handful of others, were quick to followed suit with protein products like Dynamic Muscle Builder and Crash Weight Gain #7.

SOY, SEA AND SLUDGE

It didn't take bodybuilders long to learn that high protein levels transferred to big gains in muscle size. Early protein powders capitalized on this. These were designed with one criterion - an inexpensive source of raw materials allowing for big profit margins. One of the earlier protein powders was Bob Hoffman's Hi-Proteen in the early fifties. Hi-Proteen was made from soybean flour with sweeteners to mask the bitterness, primarily because soybeans were readily available and cheap. As there was little research on proteins and

amino acids at the time, the product was a nasty tasting, low quality, and yet highly profitable venture. Since this was long before the Internet era, bodybuilding was a very insular subculture and there was no fear of negative customer feedback affecting one-time sales.

Another product from this period was Protein from the Sea. You don't even want to know what was in this stuff (crayfish, barnacles, sea monkeys?). At the time, there was a general conception among bodybuilding supplement users that, "If stuff didn't taste horrible, it wasn't doing anything." Thankfully, times have changed.



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A Complete Line of Superior Blair Food Supplements

You will notice that most of the Blair supplements come to you in easy-to-swallow form for quick dispersion and easy assimilation, not the common hard-coated and hard-to-digest tablets which may pass through the body without releasing their nutrients. And this in spite of the fact it costs three times as much to capsule late as to tablet a formula!

Not only in this, but also in the very ingredients, Blair spares no expense, being motivated by a desire to provide quality and results rather than sales and quick money. This high quality and the fine results they give make Blair products the considered choice of more and more moving picture stars, physique stars and others who seek the best.



BLAIR'S PROTEIN

The Only Undenatured Protein on the Market

Rheo H Blair's protein supplement has proved itself again and again until we know it's NUMBER ONE. Never again does anyone need to endure a protein that is disagreeable to taste. Now protein can be enjoyed — with delicious-tasting Blair's.

In the bodybuilding profession Rheo H Blair's physical fitness program has out-distanced them all. It has produced more champions than any other plan, by far!

As the champions and the stars say, "For your body's sake, get the BLAIR habit!"

Whether your goal is better appearance, or improved physical fitness — or building a title-winning physique! — Blair's INSTANT PROTEIN has what it takes to help you. The finest ingredients from the lush farms of Wisconsin — eggs and milk — blended by our own \$100,000 special low-heat process, the finest equipment in the world, which prevents the denaturing of those precious amino acids! Your body deserves the finest. BLAIR'S from "the protein people!"

14-ounce tin \$4.95; 2 lbs. \$9.95; 4 lbs. \$18.00

BLAIR'S B-COMPLEX, beyond doubt the most advanced B-Complex formula available. These capsules a day supply 1,800 milligrams of ALL the B-Complex vitamins in what we consider to be proper and balanced proportion. In easy-to-swallow capsules for quick dispersion in the stomach. 50 for \$4.50, 250 for \$15.50, 500 for \$30.

BLAIR'S LIVER EXTRACT, with 500 milligrams of liver fractions per capsule, offered in this form for optimum utilization. Processed at low temperatures. Tasted salmonella free. Disagreeably flavored, not to be confused with denatured liver. 100 capsules \$4.50, 250 for \$15.50, 500 for \$30, 1,000 for \$70.

BLAIR'S CHOLINE PLUS, high in lipotropic factors. Two capsules contain 150 milligrams choline, 150 milligrams inositol, 100 milligrams pyridoxine, 50 milligrams methionine and 20 milligrams of para-aminobenzoic acid. 100 capsules for \$4.50, 250 for \$15.50, 500 for \$30.

BLAIR'S PEPTIN HCL, an efficient protein digester especially compounded to assist in perfect protein breakdown. Guaranteed to be the most effective protein digester on the market. Used with Blair's INSTANT PROTEIN by all Blair students. 100 tablets \$3.50 for \$7, 500 for \$13.50, 1,000 for \$24.

BLAIR PROTEIN

Rheo H. Blair (born Irvin Johnson) was one of the first real modern bodybuilding "nutritional theorists." He was introducing the top bodybuilders of that era (Larry Scott, Dave Draper, Frank Zane, Don Howorth, etc.) to concepts like amino acid usage before others in the industry even knew what amino acids were. Those that consumed large quantities of Blair Protein Powder (which was probably a high quality, for that time, casein and egg white powder) routinely reported dramatic muscle gains. It has been theorized that the popularity of the Blair Protein had to do with the fact that it was not highly denatured (like some of its competitors), was recommended in large daily boluses and the taste was pleasant enough that maintaining the protocol was not "gag-reflex prohibitive."

Most of the other proteins available during this period were derived from either soy, milk, egg or a blend of milk and egg. Unsophisticated processing methods left supplement users with a bitter, highly denatured, poorly digestible egg powder and a high-carb, lactose-filled milk powder. High levels of sugars and syrups were often added to hide the bitterness, leaving a product that

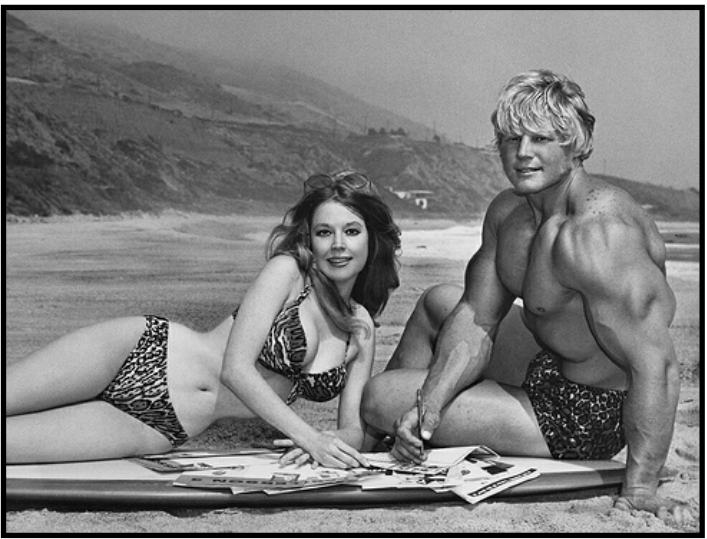
smelled like cake batter and offered more flatulence and insulin crashes than quality nutrition.

EXPANDING INDUSTRY

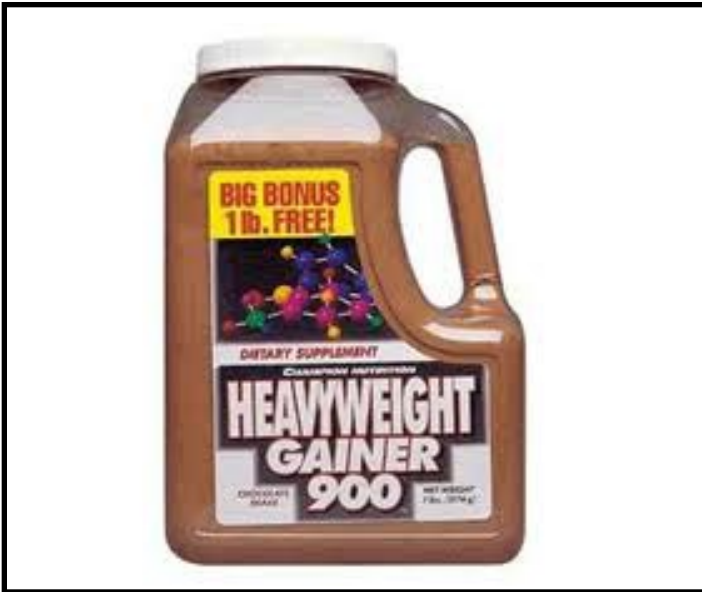
In 1970, Jim Heflin (a lifetime lifter and gym manager) purchased Beverly International from Dr. Bernie Ernst (who founded the company just two years earlier). The company was ahead of its time with a Zero Carb Protein. Beverly had a very grassroots approach, directing their sales directly towards the bodybuilding market, with Heflin traveling to hundreds of bodybuilding contests and advising athletes (at all levels) on proper dieting. Beverly developed a strong cult following despite its lack of aggressive magazine advertising (a strategy still followed by current owners Sandy and Roger Riedinger).

In addition to Weider, Hoffman and Beverly International, the major companies at this time servicing the bodybuilding audience were Thompson's (which sold to health food stores), Natural Source, Super Cal, Uni-pro and Multi-Power. There was very little in the way of major innovations to come along for quite some time.

Weight gainers (which had always been steady sellers) also began to make resurgence, partly due to a lack of anything else new and exciting to market and because increased calories ARE effective particularly with ectomorphic teenagers. Champions Nutrition's Heavy-weight Gainer 900 was particularly popular (a seven-pound tub at a decent price) with other companies jumping into the game with progressively larger calorie numbers (i.e. just a larger serving size). Weider Mega



Betty Weider and Dave Draper appeared in many Weider Nutrition ads



Mass even was offered in an over nine-pound dog food-style bag. My favorite at this time was 2-Gro 2000 from a small company called Next Nutrition, owned by David Jenkins, who often collaborated with Dan Duchaine.

ENTER MET-RX

A chief proponent of milk protein was A. Scott Connelly, the founder of MET-Rx. On numerous occasions, and over a variety of conversations, he explained to me the benefits of his proprietary protein, Metamyosin and the limitations of other sources. Metamyosin contained specific protein species and a high level of the conditionally essential amino acid glutamine. Connelly based MET-Rx on the amino acid profile of baby's milk, reasoning that, as the protein that nature provided us with for the crucial growth period of infancy, this seemed a logical starting point. His protein was casein-based (casein, along with whey, is one of the two major components of milk protein) with added glutamine.

Equally important, however, was that Met-Rx was the first product to emphasize flavor and mouth-feel (a rich, pleasant texture due to the inclusion of thickening agents and gums) that lent itself to multiple daily consumption.

Due to aggressive marketing by his one-time distribution partner Bill Phillips, MET-Rx became the biggest thing in the industry. This was due to a combination of the hard-hitting marketing, delicious yet mild flavoring, easy digestibility and flashy packaging.

The product originally was released in two canisters (Base and Plus) that were designed to be mixed together in a shake, and later in pre-measured packets. The very packaging that initially drew consumers (single-use packets), also limited its adaptability, causing smaller women to approximate half-doses and more serious men to add scoops of other protein powders to get an adequate serving.

Regardless of your assessment of the legitimacy of all of the product's claims, there can be no debating the noticeable results reported by those that used MET-Rx on a consistent basis, particularly those looking to lose body fat. This can mostly likely be attributed to a combination of increased protein intake in exchange for carb calories (the flavor did not discourage the recommended three times a day intake), the glutamine content and/or the appetite-suppressing (satiety) qualities of the thickening agents added to the product.

DAN DUCHAINE AND WHEY

In 1993 steroid guru Dan Duchaine began shifting his attention to the supplement industry and expounding on the virtues of a (up until this point) widely ignored protein source called whey protein. Whey was a waste by-product of the cheese-making process, and, as such, was relatively inexpensive. The primary expense with whey protein was removing the unwanted waste components (lactose, ash and fat). This has been done through a variety of innovative processes, each one affecting the attributes of the remaining protein.



Whey was popular because of its high levels of BCAAs and quick and easy digestion. Following “the Guru’s” recommendations, supplement users jumped all over whey protein. Duchaine had a vested interest with David Jenkins’ Next Nutrition (the first company to provide a quality whey powder) and both he and Next profited immensely with Designer Whey. The industry followed and soon every major player had a whey protein powder. At one point, I was buying 40-pound drums of whey for my own use and that of my friends for \$200 apiece and going through them relatively quickly.

XAP, SPORTPHARMA, EAS, CHAMPION NUTRITION AND OTHERS...

Following Connelly’s MET-Rx landslide, everyone wanted to get in on the game, with the market being divided-up among a variety of manufacturers.

San Francisco bio-med entrepreneur and Masters bodybuilding competitor, Pax Beale attempted to market a protein called “Muscle Protein” through his supplement company XAP (get it? His first name spelled backwards). Beale’s protein was derived from meat with an amino acid composition that allegedly mirrored that of skeletal muscle tissue. The basic marketing stated that this amino acid profile was obviously

superior to one based on baby’s milk. After all, body-builders are trying to BUILD muscle, right?

This is where marketing and science sometimes part ways. While a basic, seemingly logical premise like this is enough to stimulate sales; this is a major leap to assume that this is the ideal model. The beef protein concept never made a significant dent in the whey-dominated market.

Other popular proteins from this period include Sportpharma’s ProMax and AST Sport Science’s VyoPro (both often used as an additive to shift the macronutrient ratio of an MRP to a higher-protein/ higher-calorie version). Both were popular due to reasonable price and easy digestibility. On the high-end of the scale, Champion Nutrition’s Met Max was a popular meal replacement based primarily on the reputation of Michael Zumpano as a formulator, with their Pro-Score being a high-quality stand-alone (or MRP add-in) protein. I used both and felt I got good results using them.

After a split over issues with the distribution of Met-Rx, Connelly’s ex-partner Bill Phillips begins working with Ed Byrd and Anthony Almada of California Body Club to market creatine monohydrate. They dubbed their company EAS (Experimental and Applied Sciences) and came out with a protein powder/creatine called Phosphagen. EAS funded a great deal of university research to capitalize on the fact that creatine’s osmotic effects lends itself to impressive statistical data (although during this period they also developed a reputation for dumping studies midway that didn’t seem to bear adequate results).

Another Met-Rx associate (early company spokesperson and top professional bodybuilder) Lee Labrada launched Labrada Nutrition, working with some of the same people and closely copied the business models of Met-Rx and EAS. Due to a well-established distribution network, Twinlab’s Whey Fuel, Fuel Plex and Triple-Whey Fuel sold well during this period but its flavoring and splintering of their market did not make any of these a huge repeat sales hit.

Ready-to-drink (RTD) beverages became an emerging category at this time. Top selling drinks include American Bodybuilding (Extreme Body 50), Nitro Fuel (TwinLab), Worldwide Sports Nutrition (Pure Protein) and Nature’s Best (IsoPure). These capitalized on articles in

the newsstand muscle mags about the importance of immediate post-training and offered a convenient and flavorful option.

IT'S ALL A MATTER OF SPEED

As the industry became more aware of research, and more skeptical about how that research is slanted in order to sell them a product, it appears as if we experienced a fundamental shift. For once, research was leading the way in the marketplace.

This is most dramatically shown in an important study by the research team of French researcher Yves Boirie ("Slow and fast dietary proteins differently modulate postprandial protein accretion," Proceedings of the National Academy of Sciences USA, 94:14930-14935, 1997). The study examined the absorption rate differences between casein and whey protein. While Dan Duchaine and the whey protein disciples lauded whey protein for its quick entrance into the bloodstream, the Boirie study showed that the amino acids and peptides from whey protein travel quickly through the GI (gastrointestinal) tract and into the bloodstream causing a shorter increase in serum amino acid levels. Casein, on the other hand, "gels" in the stomach prior to digestion and moves more slowly along the GI tract.

This determined the new marketing thrust with "protein speed" being likened to the half-lives of various testosterone esters (a la the popular injectable steroid Sustanon) and blended proteins (whey and casein and sometimes others sources such as egg or soy) combinations being all the rage for a number of years. The concept of blending protein sources in meals is not a new one. Vegans have long done this; mixing rice and beans (or adding tofu) to meals in order to compensate for the incomplete spectrum of amino acids in these sources. The poor quality vegetable and legume sources of protein that make up a vegetarian's diet make attention to this blending essential. In this case however, the blend was based on speed of protein digestion and amino acid absorption by the gut, not lack of any particular essential amino acids.

A popular brand that blended proteins in this period was HDT Pro Blend 55 with Beverly International staying steady with Ultra Size (whey, casein, egg and beef plasma protein) and later Ultimate Muscle Protein. Freshly retired from competition, Dorian Yates entered the supplement market with Pro-Peptide, an egg and

milk whey blend with micellar casein, probiotics and glutamine peptides. Following the lead of Yates and Labrada, Gaspari also entered the industry, developing a strong following based on his innovative products.

BLENDED PROTEINS	
Slow	Casein
Moderate	Egg Soy
Fast	Whey Isolate Whey Concentrate Hydrolyzed Casein

SOY SWINGS - AND MISSES...

At the turn of the century, there was a brief resurgence of soy protein, stimulated by some studies that suggested that soy might exhibit positive effects on protein synthesis. Known as the "chick" protein due to purported phytoestrogenic effects of soy's isoflavones (genistein and daidzein) there just was not enough real world or laboratory evidence for it to ever catch on with the bodybuilding crowd. Soy protein went back to being merely a staple with the tree-hugger set.

HYDROLIZATION OF CASEIN AND WHEY

Hydrolization is the process of using special mild enzymes to break casein and whey proteins down to short chain peptides. This produces a low molecular weight protein that is absorbed in less time than free-form amino acids or similar whole proteins. There is some speculation that hydrolysates may stimulate IGF-1 release, leading to greater muscle growth and faster recuperation. The drawbacks of hydrolyzed proteins are their sometimes-bitter taste and their expensive nature. Both of these limit the amount (with most formulas containing 20% or less hydrolyzed protein) that can possibly be added to a protein blend before it becomes too expensive and hard to "keep down."

With companies of all sizes outsourcing manufacturing of powders, numerous protein "micro-brews" spring up, of various qualities. Many of these are associated with or owned by prominent trainers/gurus such as Nuclear Nutrition (Trevor Smith), Pro Card Nutrition (Chris Aceto), True Protein (Dante "Doggrapp" Trudel)

and Species Nutrition (Dave Palumbo). Because these companies are often based on online communities, they either prosper or decline based on direct, immediate customer feedback.

THE NEXT STEP IN THE EVOLUTION OF PROTEINS?

So what is the upcoming big thing in protein powders? Unfortunately, it is difficult to say at this point. Differentiating between science and marketing is often a difficult task. One must also factor in (once research has fairly reliably shown us the efficacy of a new supplement innovation) if a particular product actually contains adequate (if any) quantities of that compound, regardless of what is claimed on the label.

As more research is made available new protein sub-fractions and innovative processing methods become available. Over time, these formulas also become more affordable to the end-user and processing methods are improved to make these powerful protein components taste better.

While it would seem foolish to argue that protein powders have progressively improved in the past four decades, it is also impossible to deny that bodybuilders were building amazing physiques ten, twenty and forty years ago using less advanced products. As always, the best gauge of a product is the in-the-trenches real world results experienced by lifters in the gym, as revealed over time.