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**Module 79 – Pillar One: Vitalizing Foods**

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## Protein Powders



I toyed with the idea of writing a separate module for each protein powder, but it's much better to have all the protein powders together. I'll try not to make it a long module. That would be too much of an information dump.

Many people wonder about protein powders and how to incorporate them. In this module, I'll cover rice, whey, pea, egg, and hemp protein powders. Protein powder will blend well with your *Homemade Green Drinks* from Module 53.

Let me tell you, though, it's difficult to find out all the facts about protein powder because most of the information available is put out by the industry. So, a hemp manufacturer will promote hemp as The Best protein powder and put down whey to make his point. As usual, I'll dig beyond the hype and just give you the facts.

### Who Benefits From Protein Powders?

You can read more about the benefits of protein in Module 5, *The Power of Protein*. In it you'll learn that protein slows down the absorption of glucose into the bloodstream lowering elevated blood sugar levels, lowering insulin, and helping the body burn fat.

You will also find out that simply digesting protein requires more energy than digesting carbs. So, just by eating a high protein diet you'll burn more calories – and need more magnesium.

This module is about protein powders and the benefits of blending it in a smoothie for a snack or as a meal replacement. Protein powders can mean a quick breakfast or a quick meal that doesn't require a lot of preparation or a lot of digestion.

Here are some reasons why protein powders are all the rage.

1. The vegetarian population popularized non-animal, vegan protein powders.
2. The body-building sector is always looking for easy-to-absorb, muscle-building protein because athletes can burn twice as much protein as a non-active person.
3. The weight-loss crowd is hungry for quick, low-calorie meal replacements.

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4. People with multiple allergies look for hypoallergenic food products.
5. Raw foodists have spawned an industry of organic raw protein powders.
6. For many, it's the convenience of shaking up a powder with a green drink and swallowing.

### Vegetable or Animal

I try not to get too involved in the debate as to which source of protein is “the best” – animal or plant based – because I believe it's an individual choice based on results. If the results of a vegetarian diet are that you feel great, then it's a good choice for you. But if it makes you feel unhealthy, then add other foods.

If you want to eavesdrop on an extensive debate on this subject, look at reference #1, below. Dr. T. Colin Campbell, Professor of Nutritional Biochemistry at Cornell University, author of *The China Study* and a proponent of a vegetarian diet, and Dr. Loren Cordain, Professor in the Department of Health & Exercise Science at Colorado State University, author of *The Paleo Diet* (animal-based) are at opposite ends of the spectrum. It's a lengthy transcript but you'll not find a better overview of this diet controversy.

And even after reading all those words, what is the take home message? It's got to be a diet that suits your body, not just your intellect. And in my opinion, it can be a combination of vegetarian and animal-based, but should never be extreme.

My bias is toward animal protein as I explain in Module 55, *Intuitive Eating*. My real concern is that many people are getting the wrong message that they HAVE to be a vegetarian in order to be healthy. Only 4% of the whole U.S. population is vegetarian. If it were so healthy, wouldn't more people be following a vegetarian diet? The key to eating a healthy animal protein diet is to make sure you buy meat, cheese, milk and eggs from grass-fed and free range animals.

### Brown Rice versus Brown Rice Powder

I'll begin with rice protein powder because it's probably one of the first protein powders that became available. Maybe manufacturers took their cue from rice pabulum fed to babies.

Rice cereal is considered to be the best grain to introduce first to babies. Compared to wheat or dairy, rice is considered to be very hypoallergenic. That's because rice doesn't contain difficult-to-digest proteins like gluten (wheat protein) or casein (milk protein).

You might ask - wouldn't it be better to eat brown rice instead? That's a good question. It's a matter of how much rice you have to eat to get the amount of protein your body requires. We tackled this question in Module 5 and decided on the amount of protein your body requires. Here's the equation.

Multiply your ideal body weight in pounds by 0.35. So if a healthy weight for you would be 110 lbs you need  $110 \times 0.35 = 39\text{g}$  of protein a day.

Seven ounces of cooked brown rice provide 5.2 grams of protein. That's less than a gram per ounce. A 110 pound woman who wanted to get all her protein from brown rice would require 52 ounces of brown rice. That's 6.5 cups. And that's never going to happen. So, instead, rice is processed to isolate its protein content where an ounce may contain 15 grams of protein and 5 grams of carbs in the form of fiber.

## **Rice Protein Powder Is Incomplete**

Amino acids are the building blocks of protein. There are 22 amino acids, 8 of which are essential – meaning that the body can't synthesize them, but depends on the diet for these particular amino acids.

Rice is lacking one essential amino acid – lysine. And you probably won't see this mentioned in the PR for rice protein powders or rave reviews on promotional websites. But in its favor, rice is a good source of the branched-chain amino acids: leucine, isoleucine and valine. These amino acids help reduce protein breakdown and help stimulate protein synthesis.

The lack of the essential amino acid, lysine, was a big deal when it was first discovered decades ago. People were told that rice was not a complete protein and therefore inferior. However, as the dust settled, it was decided that few people try to get all their protein from rice anyway. Rice with beans is the usual staple dish in rice-growing countries, with beans completing the amino acid profile.

It's the same with using rice protein powder. Hopefully, it's not going to be your only source of protein. And it shouldn't be. Furthermore, you don't have to eat a food rich in lysine at the same meal as your rice. Other proteins eaten during the day will make up the difference.

NOTE: When companies began using sprouted rice to make rice protein powders they created a complete protein that included lysine in the process.

## **Isn't Rice Protein Powder Processed?**

You bet it is. I found references to such terms as alkaline and enzyme extraction, neutralization sedimentation, and starch degradation as part of rice protein powder preparation. I also know that industrial processing can overheat the product and leave chemical residues. So, Buyer Beware.

Therefore, let's immediately go to the healthiest types of rice protein powder and see what's available.

## **What's the Best Rice Protein Powder?**

Fortunately, the demand is such that quality rice protein powder is not hard to find. Here's your check list.

1. Organic: Buying organic means you will be avoiding GMO rice.
2. Raw: Seeing raw on your rice protein label means there was little or no heat used.
3. Sprouted: This designation means the rice grain was sprouted to release more nutrients and lysine. Companies call the process that creates this balancing act bio-fermentation.

### ***Sun Warrior***

Sun Warrior is the first product of its type on the market. It's raw, sprouted, and uses organic enzymes during the processing. But it's not labelled organic.

My trial of Sun Warrior didn't last long because I didn't like the taste when just mixed with water. It is sweetened with Stevia and maybe that was the problem – the Stevia aftertaste. However, it's fine when mixed with my green powders. I mainly use my protein powder and greens drink to swallow my vitamins in the morning anyway! So, I don't need to have a "tasty" drink. But for some, taste may be a prime consideration!

If you read Sun Warrior forums and product comments on store sites, most people do like it and it has lots of benefits. In addition to the general ones already mentioned for protein powder, Sun Warrior's benefits include:

1. It contains 85% protein – 16 grams of protein in each 1.5 Tbsp serving.
2. It is produced with a low heat process it maintains its vitamins and minerals and antioxidants. The main ones are iron, potassium, riboflavin, niacin, phosphorous, and thiamin.
3. The texture of the protein is smooth and it blends and doesn't clump when shaken in a mixing cup.

### **What About Whey**

What you may not know is that whey from cow's milk only forms 20% of the total protein content and casein is the much larger amount at 80%. Whey, however, is much easier to digest than casein and is more soluble. Whey enthusiasts call it the protein powder gold standard.

I do worry that whey still has some casein or lactose milk molecules embedded. Several brands used to give me throat mucus. The organic whey powders that I've tried recently don't seem to cause that problem. However, if you are lactose or casein intolerant, experiment with a good whey product to make sure it doesn't cause symptoms.

Without going into all the sales hype about whey, I'll point out how it stands apart from other protein powders.

1. It contains all the essential amino acids.
2. It's a rich source of branched-chain amino acids (BCAAs) and leucine, which are metabolized directly into muscle tissue, making it appealing to athletes. BCAAs are the first amino acids utilized during periods of exercise and resistance training. Whey protein contains more leucine than milk, egg or soy protein.
3. Whey protein helps maintain a healthy immune system because it increases the levels of glutathione in the body. Glutathione is a major anti-oxidant that is made in the body.
4. Whey protein stimulates the release of two appetite-suppressing hormones: cholecystokinin (CCK) and glucagon-like peptide-1 (GLP-1).

Studies show that whey protein had a greater impact the feeling of fullness than casein (milk protein).

5. Studies on cancer, aging, infant nutrition, and diabetes show the benefits of whey protein. However, unless comparison studies are done with all the other protein powders, we really don't know which one is best.

### **The Organic Whey**

This is the brand name of one of the whey powders I have tried and I recommend. Here's what I found.

1. It shakes up very nicely and doesn't clump.
2. Shaken in plain water it tastes OK. It's got a rather mild taste.
3. But when mixed in a blender it froths up too much.
4. And what doesn't work for me is that when mixed with my green drink it seems to make the greens taste even stronger, and not in a good way!

### **Whey Too Good**

This is my favorite whey protein powder by [Premier Natural Health](#) and the one I use daily. It's an extension of a product that I've been using for over 15 years. I like it so much that I'm the Medical Advisor to the company on this particular product.

1. It shakes up very nicely and doesn't clump, especially if you use their specialized shaker cup.
2. Shaken in plain water it tastes very good.
3. Mixed with my green drink it tastes even better. See Module 53, *Homemade Green Drinks*.
4. Whey Too Good also contains pea powder, rice powder and omega-3 fatty acid making it a complete, glycemic-balanced meal with protein, carbs, fiber and fats.

### **Powerful Peas**

Yellow peas are commonly used for protein powder through an uncomplicated process of drying and grinding. Fortunately, chemical solvents are not necessary to separate pea powder starch and fiber from protein. Here are the factors that make pea powder a good source of protein.

1. It is hypoallergenic – containing no gluten, casein or lactose.
2. It is easy to digest.
3. It contains all the essential amino acids and is high in the branch-chain amino acids which are the major building blocks of muscle.
4. It has a high protein content between 80-90%.
5. It aids weight-loss because it makes you feel full.
6. Yellow peas contain a protein that lowers blood pressure and cholesterol.

### **Eggxactly**

You can go to Module 28, *Eggs: A Nutritional Storehouse*, and find out just how much I love eggs. But they do have to be free range and high in omega-3 fatty acids. I know that some people say you shouldn't eat egg yolks if you have high cholesterol, but I'm not so sure that's wise advice. Egg yolk is rich in essential fats and is also high in protein. Much like whey, eggs are called the gold standard in protein quality.

I'm told by Premier Natural Health that it's next to impossible to find organic egg protein powder. So, you may simply want to blend raw eggs into your morning smoothie and not bother with the expense of egg protein powder. Add them at the end of blending so they don't get beaten up too much. The benefits of eggs? They do contain all 22 amino acids. For the rest, let me just refer you back to Module 28.

### **Have Some Hemp**

To eat, not to smoke. Hemp's illegal side has kept people from using it in such far-ranging products as building materials, clothing, and as a protein powder.

I personally find that hemp seed protein has a slight bitter aftertaste. But that can be covered up quite nicely with other ingredients in your smoothie. You can use a few ounces of apple juice or a banana or berries or your green powder combination that you can study in Module 53, *Homemade Green Drinks*.

What does hemp powder have that other protein powders do not? The industry promotes the high amount of essential fatty acids in hemp. However, the oil in ground hemp powder will go rancid very quickly once it's exposed to oxygen. Maybe that's the bitter taste I notice in hemp. I'll go into that very important point below as I review Nutiva Hemp Powder.

### ***Nutiva Organic Hemp Protein Powder***

This is the hemp protein powder that I tried while doing my research. Hemp powder has fiber, fat and protein. One of the Nutiva products is 50% protein, 20% fiber and 11% fat. I like the fact that it has fiber since eating protein without fiber can be constipating.

But what about the fat?

As I said, hemp protein has a slightly bitter taste. I would hope it's not rancid with the oils being ground in the open air! To find this out I contacted the company and asked this basic question.

I was told that the "Hemp seeds are cold processed below 104 degrees and then packaged in a nitrogen filled, oxygen-barrier canister. They are shelf stable until opened and refrigeration or freezing is recommended after that. However, 90 % of the oil has been removed from the powder and sold as hemp oil."

So, the facts are that hemp powder does not contain much in the way of essential oils at all. So, the marketing about it being high in essential fats is not factual.

Of course they have to remove most of the fat because if left in the powder would go rancid very quickly. Also, they recommend that the product should be refrigerated or frozen between uses. However, this was not made clear to me in an obvious way on the label. So, I've left my hemp powder out in my cupboard to get even more rancid. Live and learn!

### **Biological Value of Protein**

Biological Value (BV) measures the amount of protein from a particular food that is bioavailable and becomes incorporated into the body. BV relates to how quickly your body can actually use the protein you eat. The measurement is based on nitrogen uptake versus nitrogen excretion since nitrogen is a major part of protein. Theoretically, the highest BV of any food source is 100%.

BV doesn't measure an individual's digestion or absorption. So, even if a protein has a high BV it doesn't necessarily mean you will achieve that BV. Manufacturers of protein powders have tried to use the BV to their advantage in their marketing and PR. But I still say, to get the best out of your protein sources remember to chew well (Module 25, *Maximizing Absorption by Chewing*) and enhance your digestive enzymes (Module 77, *Digestive Aids*).

Here are some BV values that you can take with a grain or salt or a swig of apple cider vinegar. The best way of knowing what's best for you is to try it and see!

<b>Protein Source</b>	<b>Biological Value</b>
Whey Protein Isolate	159
Whey Protein Concentrate	104
Eggs (whole)	100
Eggs (whites)	88

Casein	77
Brown Rice	57
Peas	55

## Make It Happen

Is it the particular type of protein powder or just the fact that a person is eating more protein that shows health benefits in various protein powder studies? Don't get distracted by the marketing hype of one protein powder over another.

Try several different powders and see which ones you like. If you get constipated or bloated, give it away and stick with ones that make you feel good. You can also rotate the ones that work. Have Rice on Monday, Whey on Tuesday and Hemp on Wednesday and then repeat.

Here's what to look for in a good protein powder.

1. Make sure it's organic.
2. Look for non-GMO (genetically modified) products. But if it's organic, it should be non-GMO.
3. Look for indications that the powder will dissolve readily in a shaker cup. You want that convenience, especially if you are traveling. And even at home, I certainly don't want to clean a blender just to stop my protein powder from being clumpy.

## Questions and Answers

### ***What's your opinion on soy protein powder?***

I knew I couldn't get through a whole module on protein powder without addressing soy. Soy has been promoted on many fronts for its health benefits. But I'm not a fan of soy, never have been. I found out early on when I tried to follow a macrobiotic diet that I couldn't digest soy.

When I researched it I found that soy beans are known to be very hard to digest. Asian cooking favors the use of fermented soy not plain soy. They know it has to be highly processed to remove mineral blocking chemicals and thyroid suppressing substances. As far as I've been able to determine, manufacturing soy into protein powder does nothing to make it a healthy product.

## Until Next Week

Remember, if you don't think you can do EVERYTHING that I outline in the Future Health *Now!* modules, don't worry. I don't expect you to! Even if you just do 20% you'll probably see 80% of the results you are looking for. Many people tell me they appreciate how liberating it feels to only have to do 20% of what I'm recommending.

Thanks for participating in Future Health *Now!* I hope you have been able to implement some of the strategies that I send each week. It will make all the difference in your future health if you do.

## Coming Up In Module 80

It's all about *Pillow Talk*. Well it's not as risqué as you think. But the title did grab your attention. Admit it! I know you're thinking, this topic is way too simple. What could I possibly find to write about pillows? Well, you're in for a surprise. The type of pillow you choose can

cause or relieve neck pain, stomach cramps, and sore knees. You'll find out all about it next week. Bet you can't wait!

*If you have any questions about this module email me at [help@drcarolyndean.com](mailto:help@drcarolyndean.com)*



References:

1. <http://crossfitbirmingham.ning.com/forum/topics/the-protein-debate-loren>
2. <http://www.wheyoflife.org/benefits.cfm>

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