

“Beyond Impossible: The What, Why and How of Implementing Plant-Centric Meals”

Webinar Questions Answered by Mary Purdy, MS, RDN

Please note that these are brief answers to complex questions and are not meant as medical advice. Please seek medical advice from your personal healthcare professional for more complete information.

- The 0.8g protein/kg body weight RDA is considered the bare minimum for body functioning. Can you speak to getting more like 1.2g/kg on a plant-based diet and do you have any tips on how to do it?

Yes, the issue is that some vegetarian proteins may be less bioavailable to the body so it can be important to ensure more protein sources and to ensure a variety of those proteins. Needs are going to vary from person to person, but in terms of general tips, it would be key to spread the protein intake throughout the day so that a person is left at the end of the day with a large amount of protein needing to be consumed. Around 80 grams for a person who is at their “typical weight” of 150lbs. This means getting in approximately 20-25 grams protein for breakfast/first meal of the day which could be something like a miso soup with tofu; a grain and bean bowl, a smoothie with protein powder (or adding tofu or beans and flaxseeds etc.). Remember that a cup of edamame or lentils = 18 grams of protein and 3 oz of tempeh = 21 grams of protein so it can add up easily when going about it intentionally.

- When I recommend increasing pulses, some people seem to bring up Lectins causing all kinds of bad issues. How do you address this?

It can be a tough one because there are some people who don't respond well to pulses and so I do some experimentation with them. (I had a patient who swore by his low-lectin diet, and I honored that.) But the lectins conversation is mostly driven by a misunderstanding of food compounds. Lectins should get broken down by soaking, cooking, sprouting the pulses, so I have worked to educate patients/clients around this and emphasize that the cooking and preparation of pulses is really important, and also try to direct the conversation towards the myriad of health benefits (and environmental benefits) of this food that is naturally found in nature and has been consumed for millennia. I like this article about it as well. <https://www.precisionnutrition.com/all-about-lectins>

- Isn't the 0.8 gm/kg protein recommendation based on a mixed diet that included more animal sourced protein than what a primarily plant-based diet would include?

That's exactly right. This is why a plant-based diet tends to need a higher protein intake which is what I was emphasizing in the presentation.

- What are green and blue waters?

There are two types of freshwater on earth: blue water and green water. 'Blue water' is water in rivers and lakes, groundwater and the water frozen in glaciers and the polar ice caps. 'Green water' is the freshwater is found in plants, the soil and rain.

- Are you aware of studies comparing greenhouse emissions in natural and organic animal raising farms compared to plants? I assume that your graphs were comparing plant production to high production commercial meat production not small farm organic meat/dairy, correct?

Yes, there is definitely a difference in the emissions from conventional/intensive livestock (and the numerous emission sources from feed, to transport, to manure management etc.) versus smaller farms that are raising grassfed animals which may be part of (but not always) a more regenerative farm. But in terms of comparing plant-based crops to grass fed animals, it is always going to depend on the operation. There can be unsustainable operations growing plant foods in monocultures with all kinds of chemicals. And there can be many benefits to the environment to raising grassfed animals so one would need to look at the size, scale and practices used. It's hard to make a comparison. And the fact is still that we need to reduce meat production and consumption as there is simply not enough land that would be necessary to raise all grassfed animals. I appreciate these articles on this topic which give both sides.

- *Is Grassfed Meat and Dairy Better for Human and Environmental Health?*

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6434678/>

- *While agriculture contributes one quarter of GHGE, livestock can play a sizable role in climate mitigation. Of 80 ways to alleviate climate change, regenerative agriculture—managed grazing, silvopasture, tree intercropping, conservation agriculture, and farmland restoration—jointly rank number one as ways to sequester GHG.*

- *And this article: <https://www.wri.org/insights/sustainable-diets-what-you-need-know-12-charts>*

- *When it comes to resource use and environmental impacts, the type of food eaten matters as much, if not more, than how that food is produced.*
- *Beef is extremely inefficient to produce, as cattle consume a huge number of calories and protein in order to produce a relatively small number of calories and protein for human consumption (sheep and goat are similarly inefficient converters of feed to food but are eaten on a much smaller scale globally). As a result, beef production requires large quantities of land and water per unit of protein or calorie consumed.*

- *Do you find that people following a plant centric way of living will accept meat substitutes or would they prefer other options?*

I can't speak for everyone, but I have met individuals from both camps. I think there are many people out there who either don't like beans/lentils or don't know how to prepare them and see the meat substitutes as familiar or easy or tasty or all of the above. This is where education and guidance can be super useful. I have known vegetarians who only think of vegetarian protein as being meat analogues because that is often what gets the most press/marketing. How often do we see ads or commercials for lentils?

- *Can you provide your opinion on the role of dietary supplements as a compliment to plant-based diets? Obviously, food-first is the golden rule - however, I find that many RD's translate this as food only. Considering the complexity behind these diets and the well-known nutrient shortfalls - providing education on high-quality well rounded dietary products can be a great "insurance policy" for many who may have concerns revolving around nutrient adequacy.*

I agree that these supplements can be helpful for reaching protein needs for certain individuals, and they may not be necessary for everyone. Working with the individual and their needs and current eating patterns is really key. I have had patients who just didn't like or felt they couldn't digest beans (or were doing low FODMAPS) and for them it was necessary for us to find an easily digestible protein source which was a protein powder. Seeing it as insurance is a great way to look at it, in my opinion, and not as the default direction to give folks. It's also key, in my opinion and experience, to educate people on

the many types of protein powders as there are plenty that are poorly produced, have numerous added chemical ingredients, or contain poor quality proteins. I advocate for organic when/if possible.

- Is it true when you start a plant-based diet the flora that feeds on animal products start to die and may send out chemical messages that could make you ill?

This sounds a bit mythical to me. What we DEFINITELY know is that the microorganisms in the intestines change, even as quickly as within 24-48 hours from switching to a plant-based diet to an omnivorous diet or vice versa. You may be thinking of TMAO which are byproducts that certain bacteria are in part responsible for producing in response to levels of the amino acid carnitine. Some more specifics: TMAO is made from a byproduct of your microbiome, called trimethylamine (TMA). TMA is oxidized to TMAO which has been directly linked to atherosclerotic heart lesions. Research has shown that L-carnitine containing foods such as red meat are more likely to be converted to TMA and ultimately TMAO.

- Can you please share the recipe for the salad at the top of the slide above the mason jar salads? That one looks delicious!

I wish I had the recipe, but I think you can easily find something like it online. Here's just one that I found: <https://wholefully.com/salad-in-a-jar-101/>

- If the carminatives are dried, do they still help with the digestibility of beans?

Dried herbs are almost always going to be less potent than "live" ones, but they can still offer support. (Unless they are from the 1990's)

- As someone eats more plants (and more fiber), by how much should they increase their fluid intake?

This may vary from person to person and might be dictated by symptoms. If someone is constipated or has some abdominal cramping as they increase fiber intake, this may indicate a need for more water. It may also depend on how much water they are drinking to begin with. I'm not sure there's a specific formula that I'm aware of, but more water (not in enormous amounts) is unlikely to be harmful. Remember that many of these plant foods are also going to be higher in water themselves, so that may add in extra hydration without necessarily increasing the need for additional beverages.

- Are there any resources for foodservice organizations for recipes and ideas for plant-based entrees?

Yes! Many. They are on the slides but here are some:

- *Playbook for Guiding Diners Toward Plant-Rich Dishes in Food Service*
<https://www.wri.org/research/playbook-guiding-diners-toward-plant-rich-dishes-food-service>
- *Serving Up Plants By Default* <https://www.foodforclimateleague.org/store/p/serving-up-plants-by-default>
- *Plant Forward Future: <https://practicegreenhealth.org/plantforwardfuture>*

- Any suggestions for patients with very low energy (or time) for meal prep?

Yes. Batch cook/cut/meal prep. Cook up a big pot of grains to keep in fridge. Have canned beans on hand (or cooked in fridge) Chop up a bunch of veggies to have for the week, and then create bean/grain bowls with veggies. Have condiments on hand or ready to go sauces to create new flavors and then heat up in microwave or eat veggies raw with the cooked grains/beans. Canned bean/lentil soups are also

super easy to heat up and just add leafy greens to while it heats up. Snacks can be veggies and whole grain crackers and a ready to go bean dip. Example: Maya Kaimal, Madras Curry Indian Simmer Sauce (they also have ready to go dishes) <https://www.mayakaimal.com/>

- How do you advise getting enough calcium on a vegan diet and how to navigate the effects of coffee, tea, phytates, oxalates?

Advise folks to consume calcium rich foods away from coffee/tea.

Incorporate calcium rich foods like tofu, bok choy, collard greens, seaweed like hijiki on a daily basis. Other sources are sesame seeds, chia seeds, almonds, beans, dried fruits, and okra which if someone has a varied enough diet may be enough to reach goals. Or try out calcium fortified foods or try a calcium supplement. There are numerous sources of plant-based calcium and supplements can be a nice backup. Some unconventional sources that have been consumed in traditional Indigenous diets are also nettle and chickweed.

- How would you motivate someone with texture/taste aversions to increase their vegetable intake?

First off, explore with them what they experience. See if there are interesting angles for them to take. Ask them how they could see themselves incorporating more knowing they have taste/texture issues. People often have ideas.

Start by incorporating them in blended way into things they already consume that have flavors they love. It's easy to add a vegetable to a rich curry that someone is already consuming without their noticing a change in flavor, for instance.

CHANGE the texture by how it's cooked. I used to hate overcooked broccoli, but once I lightly steamed it and it kept its crunch, I loved it. Perhaps it's about roasting the vegetables or creating a beet or kale chip. What textures do they enjoy? Find ways to create versions of vegetables that can fit that description.

- What are "net carbohydrates"? How does fiber reduce the total amount of carbohydrates consumed?

Look at the total amount of carbohydrates. Look at the total fiber. Subtract the grams of fiber from the total carbohydrate. This = NET carbohydrate.

- How does this fit in with low FODMAP diets?

The key word here is LOW. There are many plant-based foods that are low on the low FODMAP diet. There are also some that can be incorporated into the diet in SMALL amounts. Tofu and many nuts can fit into the low FODMAPS diet as protein sources. So can 1/4 cup of most beans/lentils, if they aren't combined with a lot of other higher FODMAP foods. Experiment. Have them incorporate other things that also serve digestive function like herbs and spices.

- Can you give some examples of OTC digestive enzymes you recommend?

- *Enzymedica: Digest Basic*
- *Source Natural: Essential Enzymes*
- *NOW Foods: Digest Ultimate*

- *Innate Response: Digestive Enzymes Clinical Strength*

- Do you recommend soaking beans and grains for phytate reduction?

Yes. When possible. I think there's a great benefit. Remember that the water for the beans needs to be discarded and that we are talking about soaking dried beans.

- Are you aware of a website where you can view if the seaweed is sourced from "cleaner" waters?

The below are brands I trust and which test for contamination

- <https://seaveg.com/>
- https://www.edenfoods.com/faqs/view.php?categories_id=8

- Is Mary's email correct “.co” on the slide?

Yes, it is .co and not .com! Thanks for the clarification.