VIOME



**CHARLES WARDEN'S RECOMMENDATIONS** 

# \'IOME

## Dear Charles Warden,

The information on this report is for educational and informational use only. The information is not intended to be used by the customer for any diagnostic purpose and is not a substitute for professional medical advice. You should always seek the advice of your physician or other healthcare providers with any questions you may have regarding diagnosis, cure, treatment, mitigation, or prevention of any disease or other medical condition or impairment or the status of your health.



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**DOB:** 04/05/1985

# Recommendations

It's here! Your personalized Viome recommendations.

#### Your recommendations

Your personalized recommendations are based on the activity of microbes in your gut and the information you've provided. Your recommendations are aimed at balancing your overall microbiome. Let's put it this way: Your food list highlights foods that will be transformed by your microbes into beneficial substances while limiting foods that will be transformed into harmful metabolites.

Remember, you and your microbiome are unique, and no single recommendation applies to everyone. The same foods can be beneficial for one person, neutral for another, and harmful for others. Ready to dig in?

#### Your foods

Your food recommendations have been classified into 4 ranks to help you achieve optimum health and well-being. These are:

- 1. Superfoods. Meet your food destiny. These are your most beneficial foods.
- 2. Enjoy. Build a strong foundation with these nutrient dense foods.
- 3. Minimize. You should still eat these foods (but within limits).
- 4. Avoid. These foods are your personal kryptonite.

#### Your recommended servings

We all struggle to figure out serving sizes on food labels because they only act as measurement tools, they are not personalized for you.

With your food list, you get personalized servings to inform you on how much you should eat from each food category in a given day. And under each food, you'll find Viome's serving size, so you know the exact amount of that food to eat. **Tip:** If you are very active in a day, you can increase your servings from each food category proportionally for that day. Once you master your total servings per day, you can aim to achieve diversity by eating your recommended servings for each food rank.

#### Before you get started

Your success means a lot to us. Read our tips below before you begin.

#### What About Allergies?

You may notice some foods that you are allergic or sensitive to in your recommended food lists. Err on the side of caution. If you know you have a reaction or dislike to a recommended food, please do not consume it

Foods are specifically chosen based on your unique microbiome rather than on allergies.

#### What about viruses?



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You may see some foods placed on your avoid list due to viruses. Viruses are known to infect foods and have been associated with an inflammatory response. Internal Viome studies suggest that temporarily avoiding the virus-related foods for 3 to 4 weeks may be sufficient to reduce or eliminate activity of the viruses. You do not have to avoid all virus-related foods at once. After temporarily removing any virus-related food, you may choose to reintroduce that food back into your diet.

#### When is it best to eat?

Aim to eat three meals a day. Based on your metabolism, you will likely not need to snack in between meals. If you eat a high protein or high fat meal, wait until you feel hungry before eating again. Avoid eating three hours before you go to bed.

#### Go for variety

Explore foods that you haven't tried and since we're at it, alternate choices instead of eating the same food every day. Choose different foods from each of your superfood, enjoy, and minimize food categories based on your recommended amounts.

## Listen to your body

Your recommended amounts are a guideline on the quantity of foods you should aim for. Stop eating once you are comfortably satiated or 80% full. Monitor how you feel, including your **hunger**, **energy level**, and **mood** or other forms of discomfort 1-3 hours after eating. If you consistently feel worse in any of these areas, you may need to adjust your food choices.

#### What else?

In addition to your food plan, your microbiome and your metabolism will gain an extra benefit from sustained movement. Exercising 3 to 5 times per week is an essential component in balancing how well you metabolize foods.

Intermittent fasting with guidance may be incorporated as a strategy to improve metabolic efficiency.

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# My Foods



## **Vegetables**

62 recommended vegetables

6 avoid vegetables

8 servings of vegetables per day



#### **Proteins & Fats**

104 recommended proteins & fats

3 avoid proteins & fats

6 servings of proteins & fats per day



#### **Fruits & Grains**

71 recommended fruits & grains

0 avoid fruits & grains

7 servings of fruits & grains per day



# Herbs, Spices & Other

60 recommended herbs, spices & other

0 avoid herbs, spices & other

8 servings of herbs, spices & other per day



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# My Superfoods

#### We recommend you eat more of these foods

These foods are specially forumulated to prioritize your gut's health and biodiversity.

#### **Alfalfa Sprouts**

Vegetables 1 cup



# My Microbiome's Response to Alfalfa Sprouts

Alfalfa sprouts contain folate which is a B vitamin. After an interpretation of your gene expression and taking your questionnaire data into account, it has been determined that alfalfa sprouts in your diet will be helpful for you. Folate can be created by some of your gut bacteria like Streptococcus thermophilus and Lactobacillus lactis. Others, such as Lactobacillus delbrueckii, cannot produce folate but utilize it from food for energy. Research shows that folate has many health benefits including helping to generate red blood cells, synthesize DNA, and enhance energy metabolism.

Learn more...

- 1. http://www.jhrr.org/text.asp?2014/1/1/5/143318
- 2. <a href="https://www.ncbi.nlm.nih.gov/pubmed/21933312">https://www.ncbi.nlm.nih.gov/pubmed/21933312</a>
- 3. <a href="https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2672.2011.05157.x">https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2672.2011.05157.x</a>

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#### **Artichoke**

Vegetables 1 cup, diced



## My Microbiome's Response to Artichoke

Artichokes contain inulin which is a prebiotic fiber. After an interpretation of your gene expression and taking your wellness goals into account, it has been determined that artichokes in your diet will be optimal for you. Inulin is converted by your microbiome to produce butyrate. Research shows that inulin increases microbial diversity, prevents constipation, helps manage weight, regulates blood sugar and aids with gastrointestinal distress.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to artichokes.

Artichokes may improve your Butyrate Production Pathways score. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/29244718
- 2. https://www.ncbi.nlm.nih.gov/pubmed/29507837



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#### **Asparagus**

Vegetables 15 spears



## My Microbiome's Response to Asparagus

Asparagus contains zinc which is a mineral. After analyzing your gene expression and taking your wellness goals into account, it has been determined that asparagus in your diet will be of benefit for you. Zinc maintains microbial homeostasis of your microbiome. Research shows that zinc deficiency decreases richness and diversity, impairs butyrate production, and results in a microbial community that mimics pathological states. Zinc impacts growth and development, immune cell differentiation, and regulates storage and release of neurotransmitters.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to asparagus. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/25400994
- 2. https://www.ncbi.nlm.nih.gov/pubmed/28319311
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/26633470">https://www.ncbi.nlm.nih.gov/pubmed/26633470</a>



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#### Banana

Fruits & Grains 1 whole



## My Microbiome's Response to Banana

Bananas contain pyridoxine which is a B vitamin. After analyzing your gene expression and taking your questionnaire data into account, it has been determined that bananas in your diet will be good for you. Pyridoxine has low bioavailability until metabolized by residents of your microbiome from the bacterial families Streptococcus and Lactobacillus. Although some of your microbes are able to produce pyridoxine on their own, dietary supplementation ensures you are getting your recommended dose. Studies indicate that pyridoxine is important for brain development, immune system function and skin collagen production.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to bananas. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/17066209
- 2. https://www.ncbi.nlm.nih.gov/pubmed/6651795
- 3. https://www.ncbi.nlm.nih.gov/pubmed/6651795



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#### **Black Eyed Peas**

Proteins & Fats 3/4 cup, cooked



# My Microbiome's Response to Black Eyed Peas

Black eyed peas contain folate which is a B vitamin. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that black eyed peas in your diet will be good for you. Folate can be created by some of your gut bacteria like Streptococcus thermophilus and Lactobacillus lactis. Others, such as Lactobacillus delbrueckii, cannot produce folate but utilize it from food for energy. It has been reported that folate has many health benefits including helping to generate red blood cells, synthesize DNA, and enhance energy metabolism.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to black eyed peas.

Learn more...

- 1. http://www.jhrr.org/text.asp?2014/1/1/5/143318
- 2. https://www.ncbi.nlm.nih.gov/pubmed/19742217
- 3. <a href="https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2672.2011.05157.x">https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2672.2011.05157.x</a>



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## **Bone Broth (Poultry)**

Proteins & Fats

1 cup



Superfood

## My Microbiome's Response to Bone Broth (Poultry)

Chicken bone broth contains amino acids which are a type of amine. After an interpretation of your gene expression and taking your data into account, it has been determined that chicken bone broth in your diet will be good for you. Amino acids are protein building blocks and important for energy regulation. Your gut bacteria ferment dietary amino acids and produce molecules which modulate your immune system, cell function, metabolism and nourish your gut lining.

Learn more...

- 1. <a href="https://www.ncbi.nlm.nih.gov/pubmed/26475342">https://www.ncbi.nlm.nih.gov/pubmed/26475342</a>
- 2. <a href="https://www.ncbi.nlm.nih.gov/pubmed/18670730">https://www.ncbi.nlm.nih.gov/pubmed/18670730</a>

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#### Chard

Vegetables
1 cup



## My Microbiome's Response to Chard

Chard contains kaempferol which is a flavonoid. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that chard in your diet will be of benefit for you. Kaempferol is a flavonoid released following microbial metabolism. Kaempferol balances your microbiome, encourages growth beneficial to Lactobacillus and Bifidobacteria species and inhibits growth of harmful or pathogenic bacteria. Studies indicate that kaempferol decreases inflammation and benefits many biological systems including the gastrointestinal, hormonal, neurological, ocular and immune systems.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to chard. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/21068182
- 2. https://www.ncbi.nlm.nih.gov/pubmed/23497863
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/25793210">https://www.ncbi.nlm.nih.gov/pubmed/25793210</a>



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## Cranberry

Fruits & Grains 1/2 cup



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## My Microbiome's Response to Cranberry

Cranberries contain flavonoids which are a class of polyphenols. After an analysis of your gene expression and taking your data into account, it has been determined that cranberries in your diet will be beneficial for you. Polyphenols are a complex group of many compounds released following microbial metabolism. Polyphenols balance your microbiome, encourage growth of beneficial Lactobacillus and Bifidobacteria species and inhibit growth of harmful or pathogenic bacteria. Studies indicate that polyphenols decrease inflammation and benefit many biological systems including the gastrointestinal, hormonal, neurological, ocular, and immune systems.

Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/20540696
- 2. <a href="https://www.ncbi.nlm.nih.gov/pubmed/21763290">https://www.ncbi.nlm.nih.gov/pubmed/21763290</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/25793210">https://www.ncbi.nlm.nih.gov/pubmed/25793210</a>



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#### **Ghee**

Proteins & Fats 1 teaspoon



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## My Microbiome's Response to Ghee

Ghee contains butyrate which is a short-chain fatty acid. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that ghee in your diet will be of benefit for you. Butyrate is amazing for your microbiome. Many of your microbes are capable of making butyrate but you will benefit from more in your diet. Research shows that butyrate reduces inflammation, helps with oxidative damage, increases motility, balances blood sugar, and nourishes the gut lining.

Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/26582965
- 2. https://www.ncbi.nlm.nih.gov/pubmed/21472114

#### **Ginger**

Herbs, Spices & Other 1 tablespoon



**Superfood** 

#### My Microbiome's Response to Ginger

Ginger contains gingerol which is a polyphenol. After an analysis of your gene expression and taking your wellness goals into account, it has been determined that ginger in your diet will be beneficial for you. Gingerol like other polyphenols is metabolized by your microbiome. It has been reported that once converted by your microbes, gingerol reduces inflammation and improves digestion.

Learn more...

1. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3665023">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3665023</a>



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## Grapefruit

Fruits & Grains 1 whole



## My Microbiome's Response to Grapefruit

Grapefruit contains naringenin which is a flavanone. After analyzing your gene expression and taking your questionnaire data into account, it has been determined that grapefruit in your diet will be good for you. Naringenin is metabolized by members of your microbiome. Studies indicate that species of Streptococcus, Lactobacillus and Bacteroides do this for you. Once metabolized, naringenin acts as an anti-inflammatory and an antioxidant. This helps minimize cellular damage.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to grapefruit. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/27146015
- 2. <a href="https://www.ncbi.nlm.nih.gov/pubmed/29713125">https://www.ncbi.nlm.nih.gov/pubmed/29713125</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/29713125">https://www.ncbi.nlm.nih.gov/pubmed/29713125</a>



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#### **Green Tea**

Herbs, Spices & Other

1 cup



Superfood

## My Microbiome's Response to Green Tea

Green tea contains EGCG which is a flavonoid. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that green tea in your diet will be beneficial for you. EGCG needs to be methylated by your microbes before it can be used. It decreases production of harmful microbial metabolites, such as p-cresol, and has anticarcinogenic, antioxidant, and anti-viral benefits. Research shows that EGCG can also boost your metabolism. Learn more...

- 1. https://www.sciencedaily.com/releases/2002/09/020919071413.htm
- 2. https://www.ncbi.nlm.nih.gov/pubmed/23493529
- 3. https://www.ncbi.nlm.nih.gov/pubmed/22339247



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#### **HazeInuts**

Proteins & Fats 15 nuts



## My Microbiome's Response to Hazelnuts

Hazelnuts contain fiber which is a complex carbohydrate. After analyzing your gene expression and taking your wellness goals into account, it has been determined that hazelnuts in your diet will be beneficial for you. Fiber is converted by your microbiome to produce butyrate. It has been reported that fiber increases microbial diversity, prevents constipation, helps manage weight, regulates blood sugar and aids with gastrointestinal distress.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to hazelnuts. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/28230737
- 2. <a href="https://www.ncbi.nlm.nih.gov/pubmed/15173415">https://www.ncbi.nlm.nih.gov/pubmed/15173415</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/29902436">https://www.ncbi.nlm.nih.gov/pubmed/29902436</a>



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#### Jerusalem Artichoke

Vegetables 1 cup



## My Microbiome's Response to Jerusalem Artichoke

Jerusalem artichoke contains inulin which is a prebiotic fiber. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that jerusalem artichoke in your diet will be of benefit for you. Inulin is converted by your microbiome to produce butyrate. Research shows that inulin increases microbial diversity, prevents constipation, helps manage weight, regulates blood sugar and aids with gastrointestinal distress.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to jerusalem artichoke.

Jerusalem artichoke may improve your Butyrate Production Pathways score. Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/29244718
- 2. https://www.ncbi.nlm.nih.gov/pubmed/28213610
- 3. https://www.ncbi.nlm.nih.gov/pubmed/29507837



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#### Lamb

Proteins & Fats 2 1/2 ounces



## My Microbiome's Response to Lamb

Lamb contains cobalamin which is a B vitamin. After analyzing your gene expression and taking your data into account, it has been determined that lamb in your diet will be beneficial for you. Cobalamin is transformed by your microbiome and also produced by specific microbes. Cobalamin is extremely important in energy production and nerve health.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to lamb. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/15896807
- 2. <a href="https://www.ncbi.nlm.nih.gov/pubmed/28393285">https://www.ncbi.nlm.nih.gov/pubmed/28393285</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/25440056">https://www.ncbi.nlm.nih.gov/pubmed/25440056</a>



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#### Leek

Vegetables 1/2 cup, sliced



## My Microbiome's Response to Leek

Leeks contain inulin which is a prebiotic. After an interpretation of your gene expression and taking your data into account, it has been determined that leeks in your diet will be of benefit for you. Inulin is converted by your microbiome to produce butyrate. It has been reported that inulin increases microbial diversity, prevents constipation, helps manage weight, regulates blood sugar and aids with gastrointestinal distress.

Leeks may improve your Butyrate Production Pathways score. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/29244718
- 2. https://www.ncbi.nlm.nih.gov/pubmed/29507837



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#### Lemon

Fruits & Grains 1 whole, juiced



## My Microbiome's Response to Lemon

Lemon contains Vitamin C which is a water-soluble vitamin. After an analysis of your gene expression and taking your questionnaire data into account, it has been determined that lemon in your diet will be of benefit for you. Vitamin C impacts the activity, enzyme production, immune system regulation and nutrient absorption which are just some of the responsibilities of your gut microbiome. Studies indicate that Vitamin C affects the function of Bifidobacterium and Clostridium species. Vitamin C is a powerful antioxidant, can protect against cardiovascular disease, boost immunity, promote nutrient utilization and help fight vision loss.

Learn more...

- 1. <a href="https://www.ncbi.nlm.nih.gov/pubmed/28353648">https://www.ncbi.nlm.nih.gov/pubmed/28353648</a>
- 2. <a href="https://www.ncbi.nlm.nih.gov/pubmed/27529239">https://www.ncbi.nlm.nih.gov/pubmed/27529239</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/14498993">https://www.ncbi.nlm.nih.gov/pubmed/14498993</a>
- 4. https://www.sciencedirect.com/science/article/pii/S0963996916301041



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#### Olive Oil

Proteins & Fats 1 tablespoon



Superfood

## My Microbiome's Response to Olive Oil

Olive oil contains essential fatty acids which are a class of unsaturated fatty acids. After an analysis of your gene expression and taking your wellness goals into account, it has been determined that olive oil in your diet will be optimal for you. Essential fatty acids are critical for a stable microbiome. They increase microbial diversity and beneficial butyrate-producing bacteria. Butyrate is anti-inflammatory and promotes a strong gut lining by tightening the junctions between cells. Research shows that essential fatty acids nourish your brain, enhance gut health and decrease inflammation. Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/26582965
- 2. https://www.ncbi.nlm.nih.gov/pubmed/21472114
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/29215589">https://www.ncbi.nlm.nih.gov/pubmed/29215589</a>



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#### **Olives**

Proteins & Fats 20 olives



## My Microbiome's Response to Olives

Olives contain essential fatty acids which are a class of unsaturated fatty acids. After an interpretation of your gene expression and taking your wellness goals into account, it has been determined that olives in your diet will be of benefit for you. Essential fatty acids are critical for a stable microbiome. They increase microbial diversity and beneficial butyrate-producing bacteria. Butyrate is anti-inflammatory and promotes a strong gut lining by tightening the junctions between cells. It has been reported that essential fatty acids nourish your brain, enhance gut health and decrease inflammation.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to olives. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/24454759
- 2. https://www.ncbi.nlm.nih.gov/pubmed/29215589

#### Oregano

Herbs, Spices & Other 1/4 teaspoon



Superfood

#### My Microbiome's Response to Oregano

Oregano contains flavonoids which are a class of polyphenols. After an interpretation of your gene expression and taking your questionnaire data into account, it has been determined that oregano in your diet will be of benefit for you. Polyphenols are a complex group of many compounds released following microbial metabolism. Polyphenols balance your microbiome, encourage growth of beneficial Lactobacillus and Bifidobacteria species and inhibit growth of harmful or pathogenic bacteria. It has been reported that polyphenols decrease inflammation and benefit many biological systems including the gastrointestinal, hormonal, neurological, ocular, and immune systems.

Learn more...

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4227268



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#### Radicchio

Vegetables
1 cup, sliced



## My Microbiome's Response to Radicchio

Radicchio contains glycosides which are a class of polyphenols. After an interpretation of your gene expression and taking your data into account, it has been determined that radicchio in your diet will be good for you. Your gut bacteria transforms glycosides through glycosylation, altering their activity and bioavailability. Studies indicate that glycosides have anti-inflammatory, anti-bacterial, antioxidant, and anti-stress properties.

Learn more...

- 1. <a href="https://www.ncbi.nlm.nih.gov/pubmed/25802870">https://www.ncbi.nlm.nih.gov/pubmed/25802870</a>
- 2. https://www.ncbi.nlm.nih.gov/pubmed/26176651
- 3. https://www.ncbi.nlm.nih.gov/pubmed/25802870
- 4. https://www.ncbi.nlm.nih.gov/pubmed/23849454



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#### Sage

Herbs, Spices & Other 1/4 teaspoon



## My Microbiome's Response to Sage

Sage contains flavonoids which are a class of polyphenols. After an interpretation of your gene expression and taking your wellness goals into account, it has been determined that sage in your diet will be good for you. Polyphenols are a complex group of many compounds released following microbial metabolism. Polyphenols balance your microbiome, encourage growth of beneficial Lactobacillus and Bifidobacteria species and inhibit growth of harmful or pathogenic bacteria. Research shows that polyphenols decrease inflammation and benefit many biological systems including the gastrointestinal, hormonal, neurological, ocular, and immune systems.

Learn more...

- 1. <a href="https://www.ncbi.nlm.nih.gov/pubmed/20540696">https://www.ncbi.nlm.nih.gov/pubmed/20540696</a>
- 2. <a href="https://www.ncbi.nlm.nih.gov/pubmed/21763290">https://www.ncbi.nlm.nih.gov/pubmed/21763290</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/25793210">https://www.ncbi.nlm.nih.gov/pubmed/25793210</a>



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#### Sauerkraut

Vegetables

1 cup



## My Microbiome's Response to Sauerkraut

Sauerkraut contains probiotics which are beneficial microbes. After analyzing your gene expression and taking your wellness goals into account, it has been determined that sauerkraut in your diet will be helpful for you. Probiotics restore and promote diversity and balance in your microbiome. This helps to decrease and prevent inflammation, manage symptoms of gastrointestinal distress, promote regularity, and balance your immune responses. A diverse microbiome also optimizes conversion of dietary nutrients to enhance your health.

Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/23320049
- 2. https://www.hindawi.com/journals/ifg/2017/5123572/

#### **Tarragon**

Herbs, Spices & Other 1/4 teaspoon



**Superfood** 

#### My Microbiome's Response to Tarragon

Tarragon contains apigenin which is a bioflavonoid. After an interpretation of your gene expression and taking your wellness goals into account, it has been determined that tarragon in your diet will be of benefit for you. Your microbiome plays an important role in breaking down bioflavonoids. Studies indicate that apigenin influences the diversity of your microbiome by increasing the activity of Enterococcus species and their ability to participate in DNA repair and modulation of the stress and immune responses.

Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/22975493/
- 2. <a href="https://www.ncbi.nlm.nih.gov/pubmed/28771188">https://www.ncbi.nlm.nih.gov/pubmed/28771188</a>



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## **Trout (Cold Water)**

Proteins & Fats 4 ounces



# My Microbiome's Response to Trout (Cold Water)

Trout contains essential fatty acids which are a class of unsaturated fatty acids. After analyzing your gene expression and taking your wellness goals into account, it has been determined that trout in your diet will be good for you. Essential fatty acids are critical for a stable microbiome. They increase microbial diversity and beneficial butyrate-producing bacteria. Butyrate is anti-inflammatory and promotes a strong gut lining by tightening the junctions between cells. Research shows that essential fatty acids nourish your brain, enhance gut health and decrease inflammation.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to trout. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/21472114
- 2. https://www.ncbi.nlm.nih.gov/pubmed/29215589



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## **Turkey (Dark Meat)**

Proteins & Fats 2 1/2 ounces



# My Microbiome's Response to Turkey (Dark Meat)

Dark turkey meat contains pantothenic acid which is a B vitamin. After analyzing your gene expression and taking your data into account, it has been determined that dark turkey meat in your diet will be helpful for you. Your microbiome hydrolyzes and dephosphorylates pantothenic acid before it can be utilized by your body. Research shows that pantothenic acid helps balance blood sugar, mitigate nerve pain and enhance immune system function.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to dark turkey meat.

Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/27515213
- 2. https://www.ncbi.nlm.nih.gov/pubmed/28739188
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/13630913">https://www.ncbi.nlm.nih.gov/pubmed/13630913</a>



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#### **Turkey (White Meat)**

Proteins & Fats 3 ounces



## My Microbiome's Response to Turkey (White Meat)

White turkey meat contains tryptophan which is an amino acid. After an analysis of your gene expression and taking your data into account, it has been determined that white turkey meat in your diet will be helpful for you. Your microbes are capable of producing some tryptophan, but they also use it to make a large number of compounds including neurotransmitters like serotonin and indole-3-propionate which is anti-inflammatory and promotes brain health. Adding tryptophan-rich foods makes sure you are getting enough of it everyday.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to white turkey meat.

Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/29276734
- 2. https://www.ncbi.nlm.nih.gov/pubmed/29941795
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/29686603">https://www.ncbi.nlm.nih.gov/pubmed/29686603</a>



Customer Name: Charles Warden

**DOB:** 04/05/1985

#### **Turmeric**

Herbs, Spices & Other 1/2 teaspoon



## My Microbiome's Response to Turmeric

Turmeric contains curcumin which is a polyphenol. After an interpretation of your gene expression and taking your wellness goals into account, it has been determined that turmeric in your diet will be good for you. Curcumin is a great anti-inflammatory. By decreasing inflammation, you alter the environment of your gut allowing your microbes to thrive and strengthen the integrity of your gut lining.

Learn more...

- 1. <a href="https://www.ncbi.nlm.nih.gov/pubmed/29065496">https://www.ncbi.nlm.nih.gov/pubmed/29065496</a>
- **2.** <a href="https://www.jax.org/news-and-insights/2015/january/curcumin-attenuates-western-diet-induced-disease-by-increasing-intestinal-b">https://www.jax.org/news-and-insights/2015/january/curcumin-attenuates-western-diet-induced-disease-by-increasing-intestinal-b</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/26218141">https://www.ncbi.nlm.nih.gov/pubmed/26218141</a>
- **4.** <a href="https://www.jax.org/news-and-insights/2015/january/curcumin-attenuates-western-diet-induced-disease-by-increasing-intestinal-b#">https://www.jax.org/news-and-insights/2015/january/curcumin-attenuates-western-diet-induced-disease-by-increasing-intestinal-b#</a>



Customer Name: Charles Warden

**DOB:** 04/05/1985

#### **Watercress**

Vegetables 1 cup



## My Microbiome's Response to Watercress

Watercress contains nitrate which is a beneficial nutrient. After an interpretation of your gene expression and taking your data into account, it has been determined that watercress in your diet will be helpful for you. Nitrate feeds your gut microbiota, mainly Bifidobacterium and Lactobacillus species, allowing them to produce nitric oxide. Nitric oxide is anti-inflammatory, maintains the integrity of your gut lining, and can stimulate blood flow to your GI tract. It has been reported that nitrate also has effects outside of the gastrointestinal tract and can help balance hormones and blood vessel health.

Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/15722114
- 2. https://www.ncbi.nlm.nih.gov/pubmed/19007429
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/25803049">https://www.ncbi.nlm.nih.gov/pubmed/25803049</a>



Customer Name: Charles Warden

**DOB:** 04/05/1985

#### Watermelon

Fruits & Grains 1 cup, diced



## My Microbiome's Response to Watermelon

Watermelon contains Vitamin C which is a water-soluble vitamin. After an interpretation of your gene expression and taking your data into account, it has been determined that watermelon in your diet will be beneficial for you. Vitamin C impacts the activity, enzyme production, immune system regulation and nutrient absorption which are just some of the responsibilities of your gut microbiome. Research shows that Vitamin C affects the function of Bifidobacterium and Clostridium species. Vitamin C is a powerful antioxidant, can protect against cardiovascular disease, boost immunity, promote nutrient utilization and help fight vision loss.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to watermelon. **Learn more...** 

- 1. https://www.ncbi.nlm.nih.gov/pubmed/29941777
- 2. https://www.ncbi.nlm.nih.gov/pubmed/28094305
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/14498993">https://www.ncbi.nlm.nih.gov/pubmed/14498993</a>



Customer Name: Charles Warden

**DOB:** 04/05/1985

## Yogurt (Cow Milk, Plain)

Proteins & Fats 1/2 cup



## My Microbiome's Response to Yogurt (Cow Milk, Plain)

Yogurt (cow milk, plain) contains cysteine which is an amino acid. After an analysis of your gene expression and taking your data into account, it has been determined that yogurt (cow milk, plain) in your diet will be optimal for you. Cysteine is naturally produced by your body, but your microbiota ensures you receive adequate amounts by metabolizing it from your food. It has been reported that cysteine is a critical building block for glutathione, an antioxidant that mitigates cellular damage caused by free radicals and heavy metals. Your microbiome makes and utilizes glutathione.

Additionally, analysis of your data predicts that you are unlikely to have an increased blood sugar response to yogurt (cow milk, plain).

Learn more...

- 1. https://www.ncbi.nlm.nih.gov/pubmed/12954812
- 2. https://www.ncbi.nlm.nih.gov/pubmed/10600876
- 3. <a href="https://www.ncbi.nlm.nih.gov/pubmed/29477429">https://www.ncbi.nlm.nih.gov/pubmed/29477429</a>
- 4. <a href="https://www.ncbi.nlm.nih.gov/pubmed/10569625">https://www.ncbi.nlm.nih.gov/pubmed/10569625</a>



Customer Name: Charles Warden

**DOB:** 04/05/1985

# My Foods to Avoid

#### We recommend you avoid these foods

These are commonly known foods that will not benefit your overall wellness.

#### Almonds

Proteins & Fats



## My Microbiome's Response to Almonds

Almonds contain phytic acid which has been shown to impair the absorption or utilization of essential nutrients if it is not degraded by specific microbes. An analysis of your data indicates that avoiding almonds will be beneficial for you.

Avoiding almonds may improve your Oxalate Metabolism Pathways score. **Learn more...** 

- 1. https://pubmed.ncbi.nlm.nih.gov/14985216/
- 2. <a href="https://www.researchgate.net/publication">https://www.researchgate.net/publication</a>
  /227528193 Phytogenic and microbial phytases in human nutrition

Customer Name: Charles Warden

**DOB:** 04/05/1985

## **Bell Pepper**

Vegetables



## My Microbiome's Response to Bell Pepper

Your microbiome contains pepper mild mottle virus, which is known to infect bell pepper. Since plant viruses in the microbiome have been associated with Immune System Activation, it is recommended for you to avoid bell pepper. **Learn more...** 

- 1. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6435874/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6435874/</a>
- 2. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4405218/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4405218/</a>

Customer Name: Charles Warden

**DOB:** 04/05/1985

#### **Broccoli**

Vegetables



#### My Microbiome's Response to Broccoli

Broccoli contains choline, which is a compound that can be used by your microbes to produce TMA, a precursor to TMAO. Additionally, broccoli contains sulfur compounds, which can be converted to hydrogen sulfide gas by your gut microbes. Avoiding this food is important for your digestive and metabolic wellness.

Avoiding broccoli may improve your Sulfide Gas Production Pathways and TMA Production Pathways scores. **Learn more...** 

- 1. https://www.frontiersin.org/articles/10.3389/fmicb.2019.02966/full
- 2. https://pubmed.ncbi.nlm.nih.gov/28766244/
- 3. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6767122/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6767122/</a>
- 4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985713/



Customer Name: Charles Warden

**DOB:** 04/05/1985

# **Brussels Sprouts**

Vegetables



# My Microbiome's Response to Brussels Sprouts

Brussels sprouts contain glucosinolates which has been shown to impair the absorption or utilization of essential nutrients if it is not degraded by specific microbes. An analysis of your data indicates that avoiding brussels sprouts will be beneficial for you.

Avoiding brussels sprouts may improve your Sulfide Gas Production Pathways score. **Learn more...** 

- 1. https://pubmed.ncbi.nlm.nih.gov/28766244/
- 2. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6767122/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6767122/</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985713/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985713/</a>



Customer Name: Charles Warden

**DOB:** 04/05/1985

## Cabbage

Vegetables



# My Microbiome's Response to Cabbage

Cabbage contains glucosinolates which has been shown to impair the absorption or utilization of essential nutrients if it is not degraded by specific microbes. An analysis of your data indicates that avoiding cabbage will be beneficial for you.

Avoiding cabbage may improve your Sulfide Gas Production Pathways score. **Learn more...** 

- 1. https://pubmed.ncbi.nlm.nih.gov/28766244/
- 2. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6767122/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6767122/</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985713/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985713/</a>



Customer Name: Charles Warden

**DOB:** 04/05/1985

# Egg Yolk (Chicken)

Proteins & Fats



## My Microbiome's Response to Egg Yolk (Chicken)

Chicken egg yolk contains choline, which is a compound that can be used by your microbes to produce TMA, a precursor to TMAO. Additionally, chicken egg yolk contains sulfur compounds, which can be converted to hydrogen sulfide gas by your gut microbes. Avoiding this food is important for your digestive and metabolic wellness.

Avoiding chicken egg yolk may improve your Sulfide Gas Production Pathways and TMA Production Pathways scores. **Learn more...** 

- 1. https://www.frontiersin.org/articles/10.3389/fmicb.2019.02966/full
- 2. https://pubmed.ncbi.nlm.nih.gov/28766244/
- 3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6767122/
- 4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985713/



Customer Name: Charles Warden

**DOB:** 04/05/1985

#### **Mustard Greens**

Vegetables



## My Microbiome's Response to Mustard Greens

Mustard greens contain glucosinolates which has been shown to impair the absorption or utilization of essential nutrients if it is not degraded by specific microbes. An analysis of your data indicates that avoiding mustard greens will be beneficial for you.

Avoiding mustard greens may improve your Sulfide Gas Production Pathways score. **Learn more...** 

- 1. https://pubmed.ncbi.nlm.nih.gov/28766244/
- 2. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6767122/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6767122/</a>
- 3. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985713/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4985713/</a>



Customer Name: Charles Warden

**DOB:** 04/05/1985

#### **Pistachios**

Proteins & Fats



# My Microbiome's Response to Pistachios

Pistachios contain phytic acid which has been shown to impair the absorption or utilization of essential nutrients if it is not degraded by specific microbes. An analysis of your data indicates that avoiding pistachios will be beneficial for you. **Learn more...** 

- 1. <a href="https://pubmed.ncbi.nlm.nih.gov/14985216/">https://pubmed.ncbi.nlm.nih.gov/14985216/</a>
- 2. <a href="https://www.researchgate.net/publication">https://www.researchgate.net/publication</a>
  /227528193 Phytogenic and microbial phytases in human nutrition



Customer Name: Charles Warden

**DOB:** 04/05/1985

#### **Tomato**

Vegetables



# My Microbiome's Response to Tomato

Your microbiome contains tomato brown rugose fruit virus, which is known to infect tomatoes. Since plant viruses in the microbiome have been associated with immune stimulation, it is recommended for you to avoid tomatoes. **Learn more...** 

- 1. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6435874/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6435874/</a>
- 2. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4405218/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4405218/</a>

Customer Name: Charles Warden

**DOB:** 04/05/1985

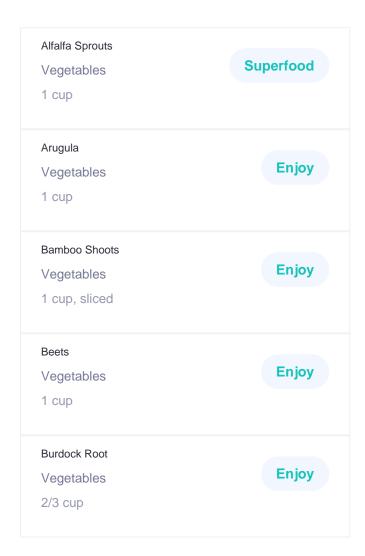
**My Foods** 

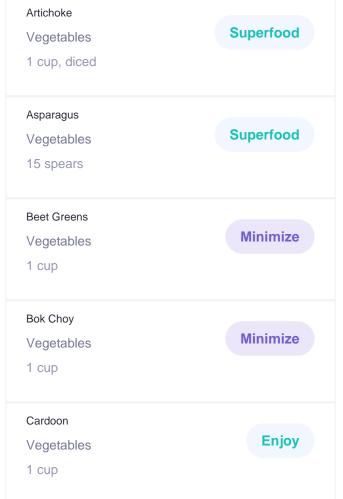
# Vegetables 8 per day

We recommend you break your daily Vegetables intake by the following servings

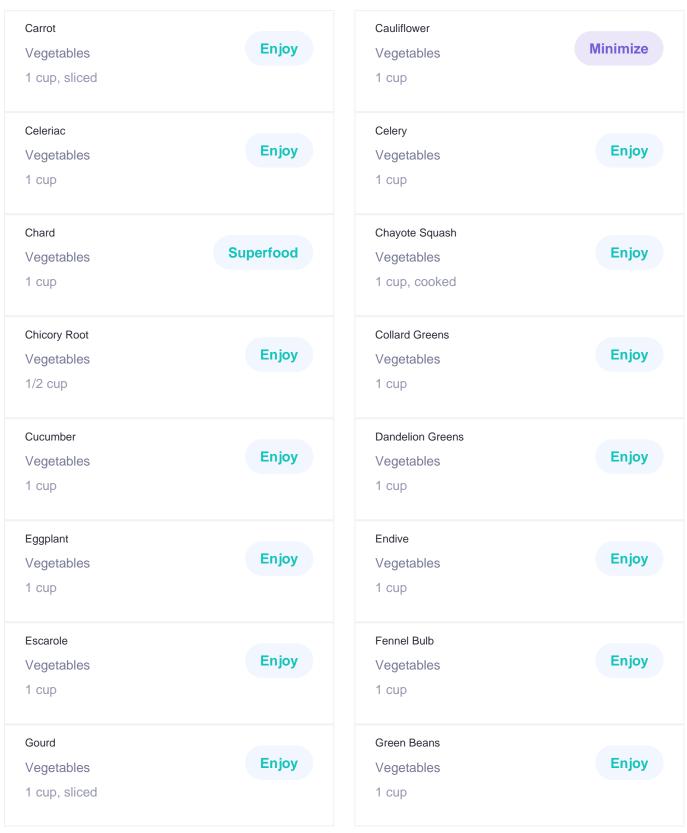
Superfood + Enjoy 7 •••••

Minimize 1



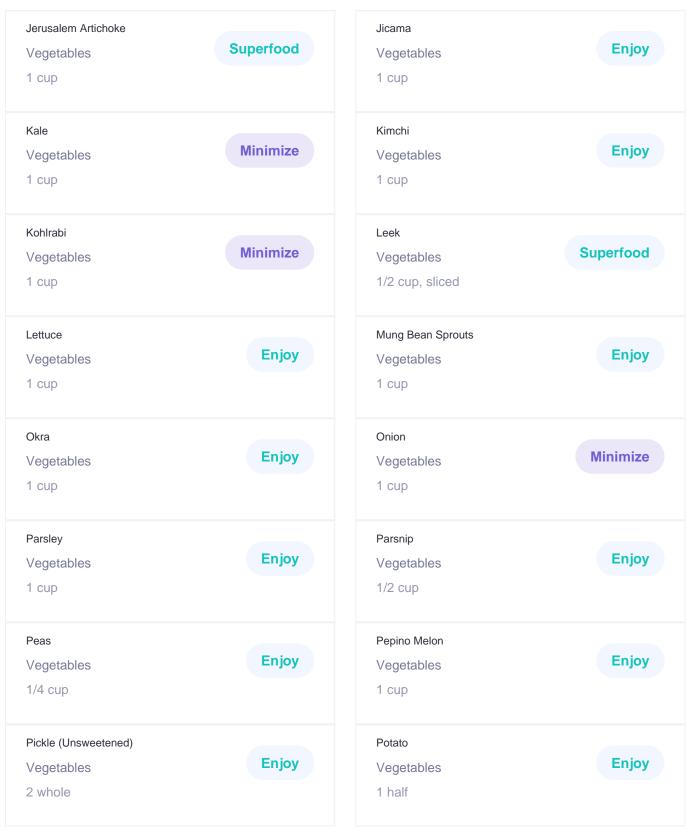


Customer Name: Charles Warden

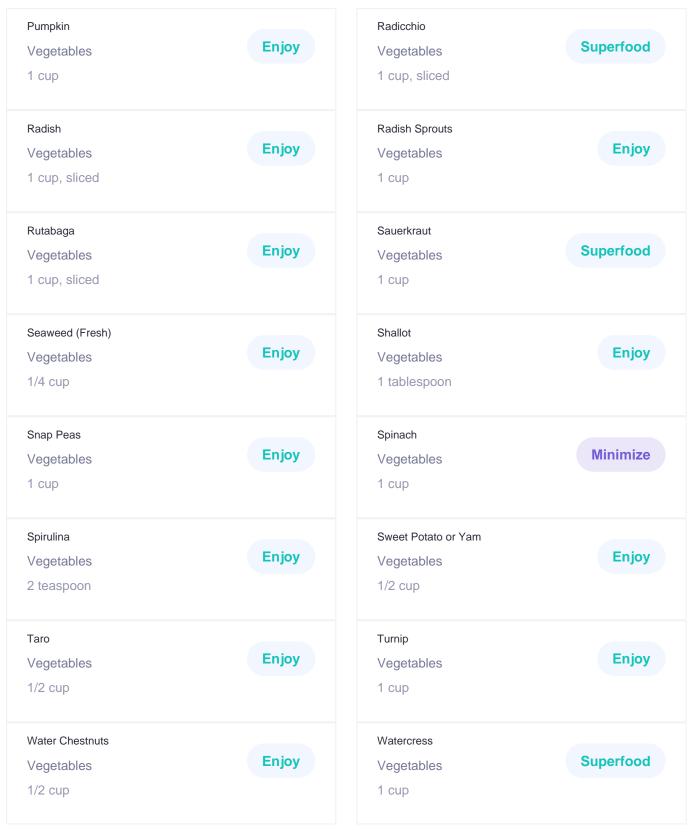




Customer Name: Charles Warden

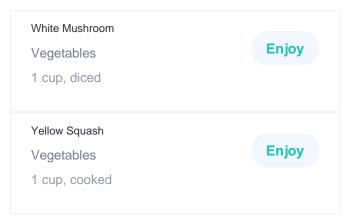


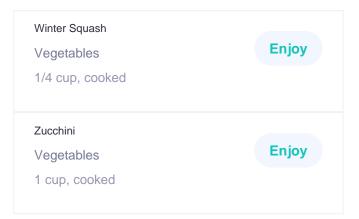
Customer Name: Charles Warden





Customer Name: Charles Warden





Customer Name: Charles Warden

**DOB:** 04/05/1985

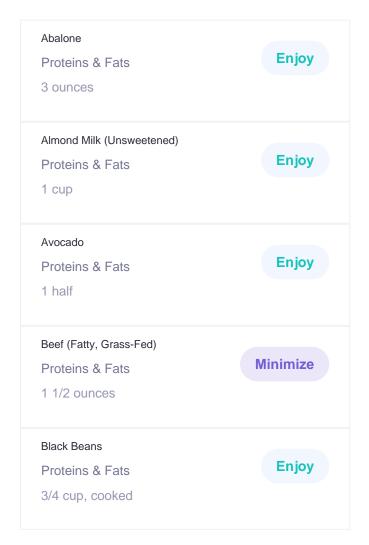
# My Foods

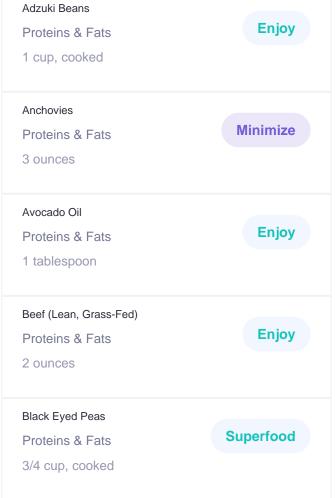
# Proteins & Fats 6 per day

We recommend you break your daily Proteins & Fats intake by the following servings

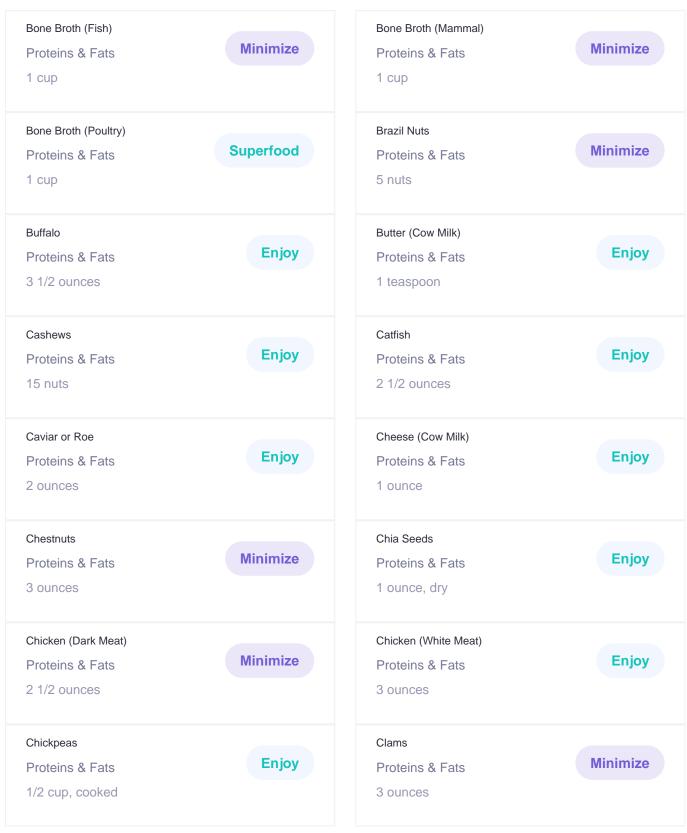
Superfood + Enjoy 5 ••••

Minimize 1



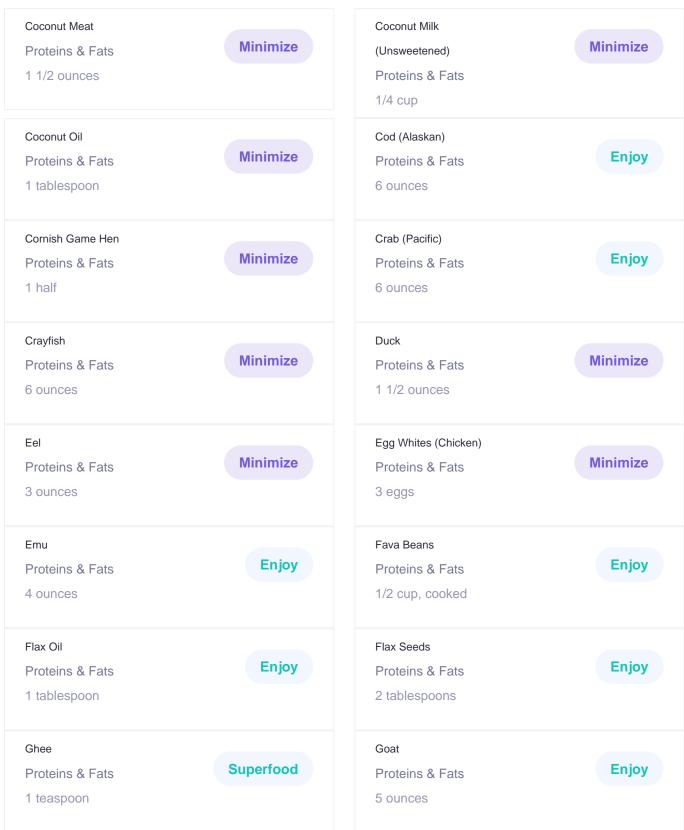


Customer Name: Charles Warden

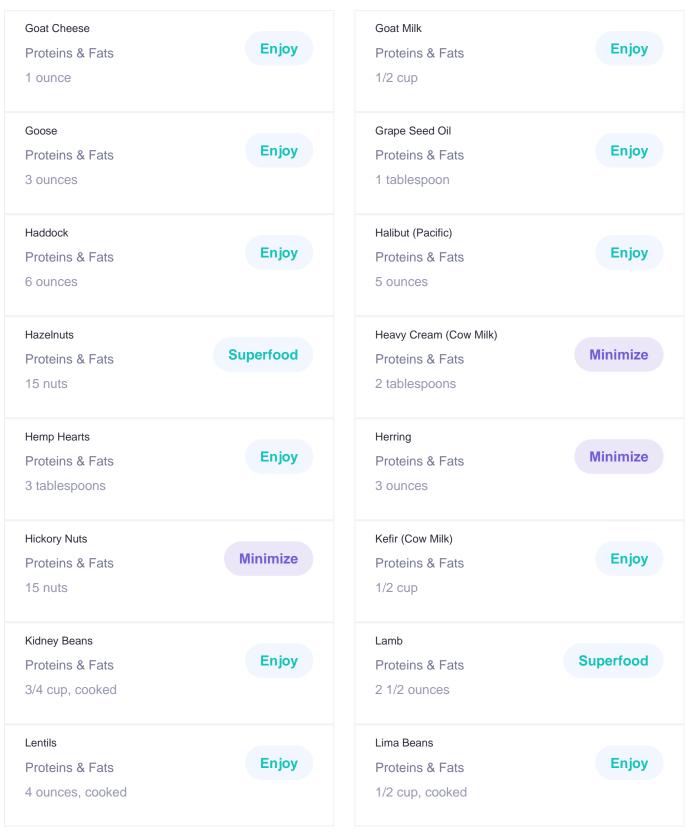




Customer Name: Charles Warden

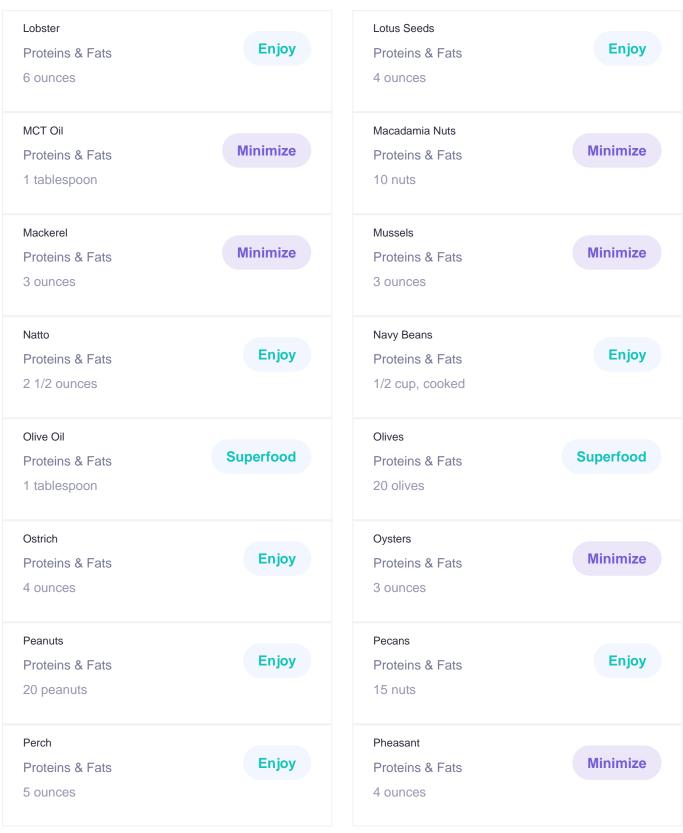


Customer Name: Charles Warden

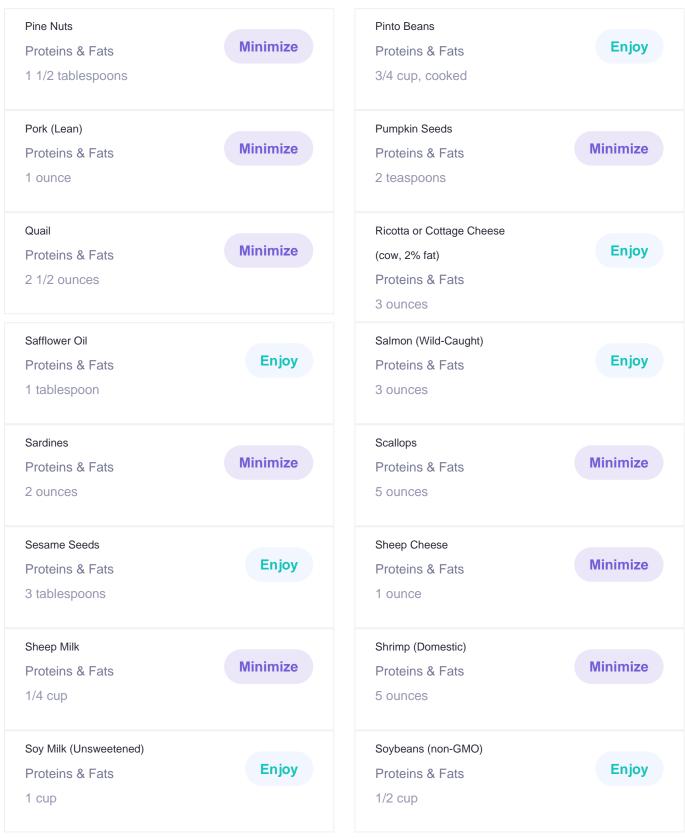




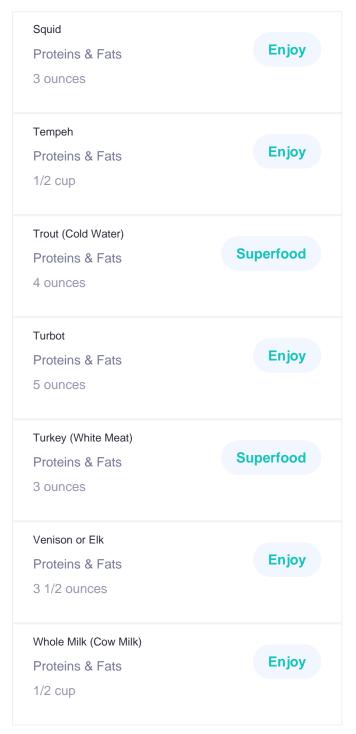
Customer Name: Charles Warden

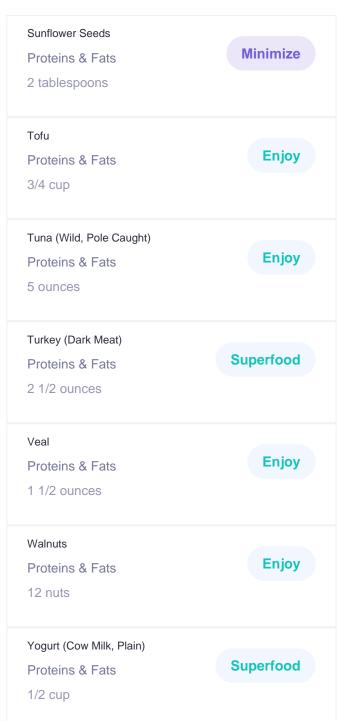


Customer Name: Charles Warden



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**DOB:** 04/05/1985

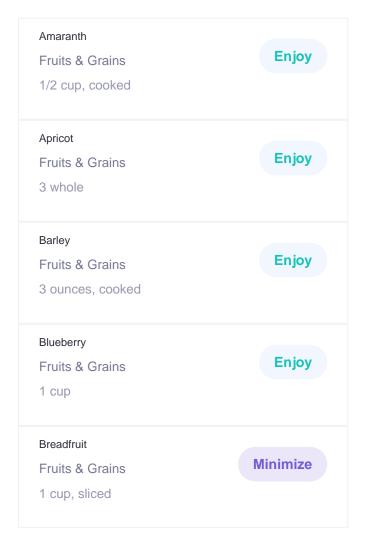
My Foods

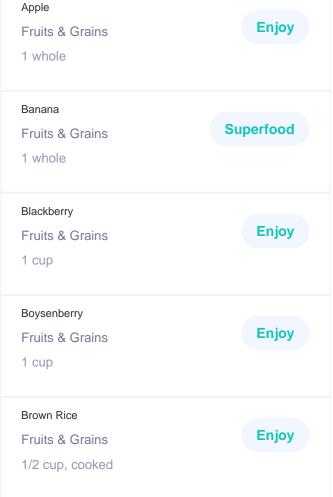
# Fruits & Grains 7 per day

We recommend you break your daily Fruits & Grains intake by the following servings

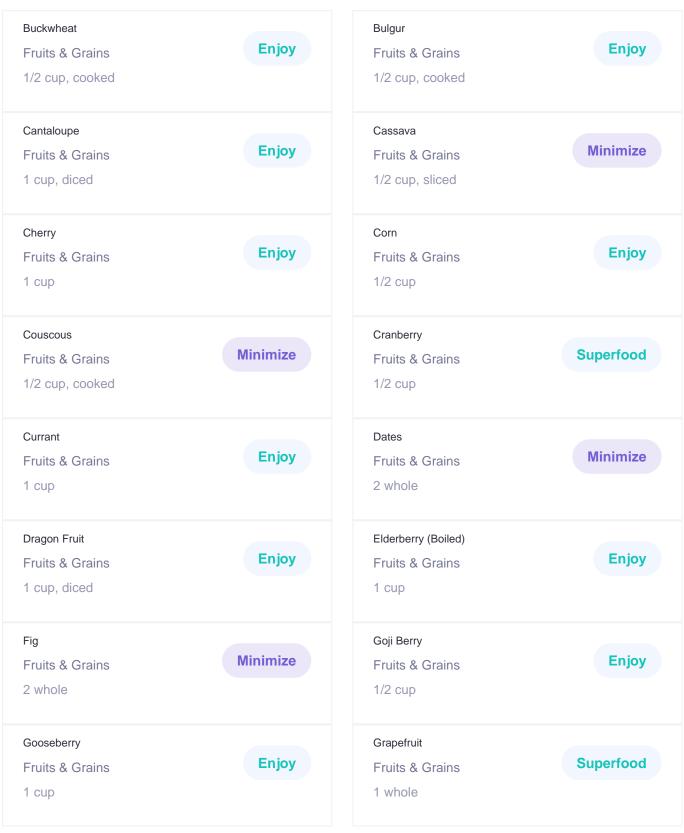
Superfood + Enjoy 6 ••••

Minimize 1



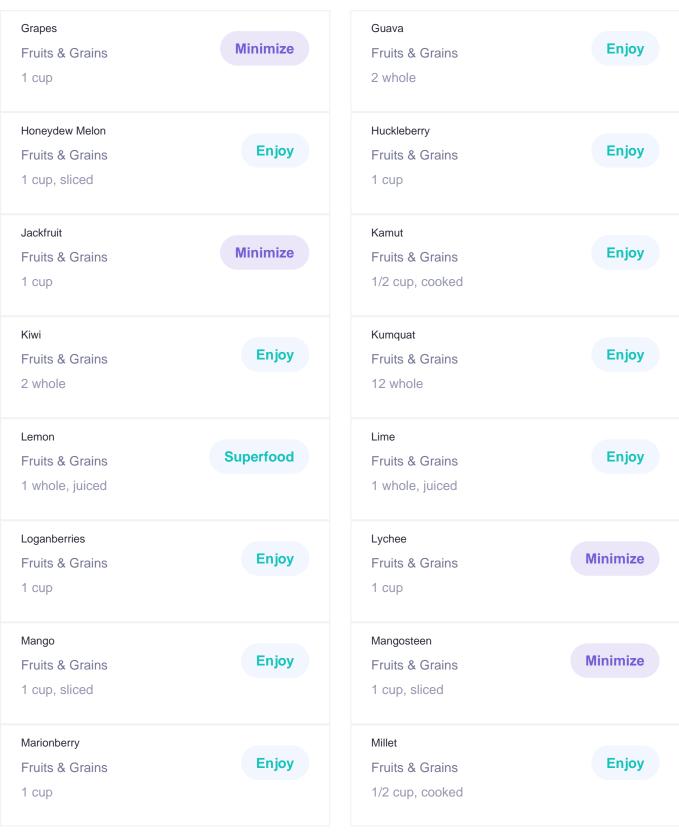


Customer Name: Charles Warden

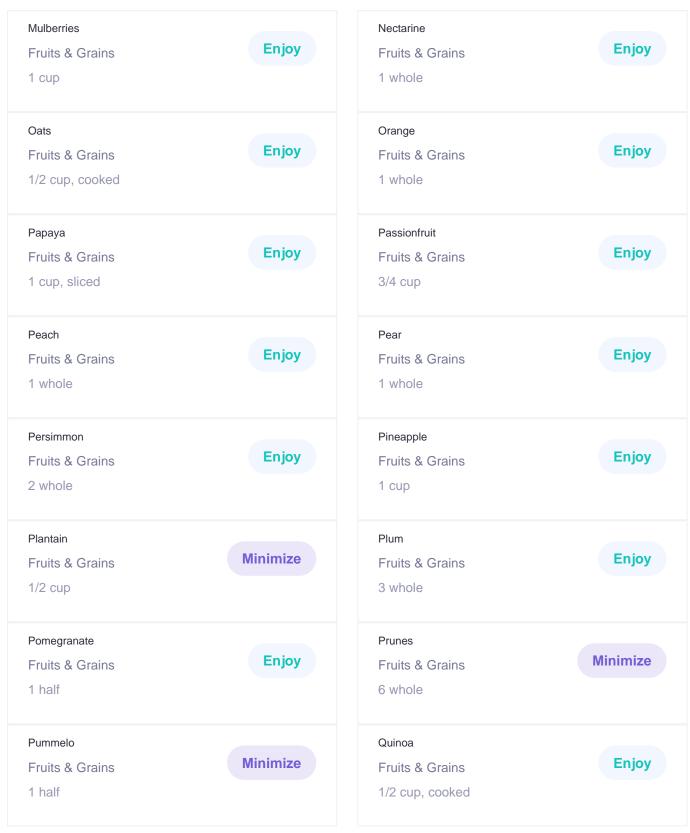




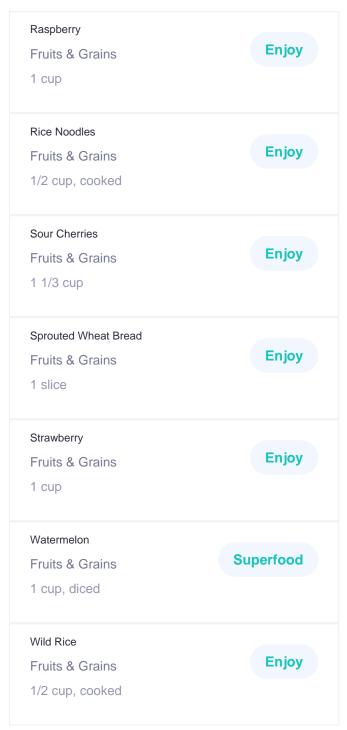
Customer Name: Charles Warden

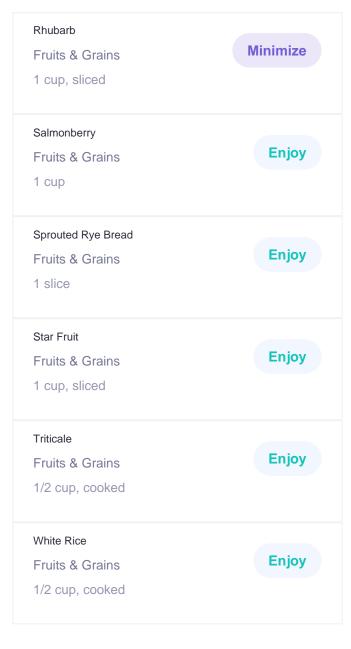


Customer Name: Charles Warden



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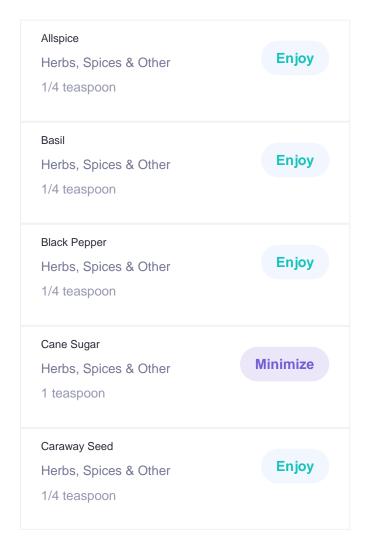
My Foods

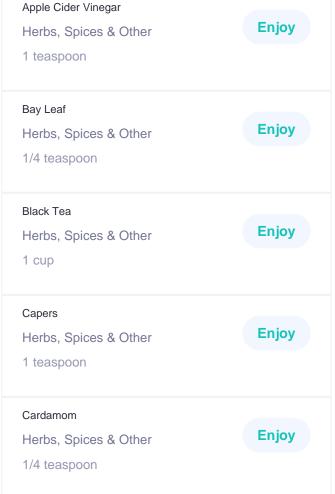
# Herbs, Spices & Other 8 per day

We recommend you break your daily Herbs, Spices & Other intake by the following servings

Superfood + Enjoy 7 •••••

Minimize 1



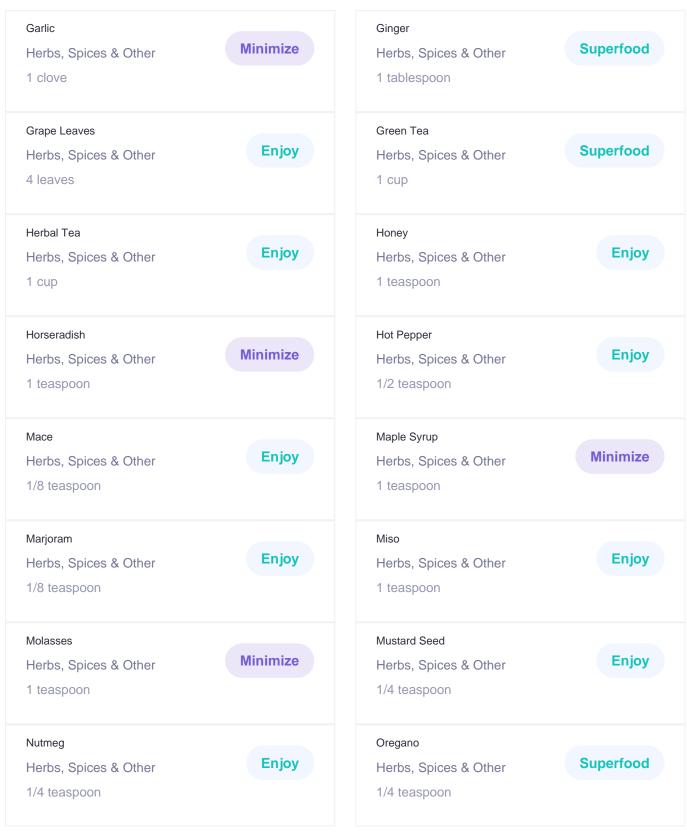


Customer Name: Charles Warden

Carob		Cayenne Pepper	
Herbs, Spices & Other	Enjoy	Herbs, Spices & Other	Enjoy
1 tablespoon		1/8 teaspoon	
Celery Seed		Chervil	
Herbs, Spices & Other	Enjoy	Herbs, Spices & Other	Enjoy
1/4 teaspoon		1/4 teaspoon	
Chili Powder		Cilantro	
Herbs, Spices & Other	Enjoy	Herbs, Spices & Other	Enjoy
1/4 teaspoon		2 tablespoons	
Cinnamon		Cloves	
Herbs, Spices & Other	Enjoy	Herbs, Spices & Other	Enjoy
1/4 teaspoon		1/8 teaspoon	
Cocoa (Unsweetened)		Coconut Water	
Herbs, Spices & Other	Enjoy	Herbs, Spices & Other	Minimize
1 tablespoon		1 cup	
Coffee		Coriander	
Herbs, Spices & Other	Enjoy	Herbs, Spices & Other	Enjoy
1 cup		1/4 teaspoon	
Cumin		Dill (Fresh)	
Herbs, Spices & Other	Enjoy	Herbs, Spices & Other	Enjoy
1/4 teaspoon		2 tablespoons	
Fennel Seed		Fenugreek Seed	
Herbs, Spices & Other	Enjoy	Herbs, Spices & Other	Enjoy
1/4 teaspoon		1/4 teaspoon	

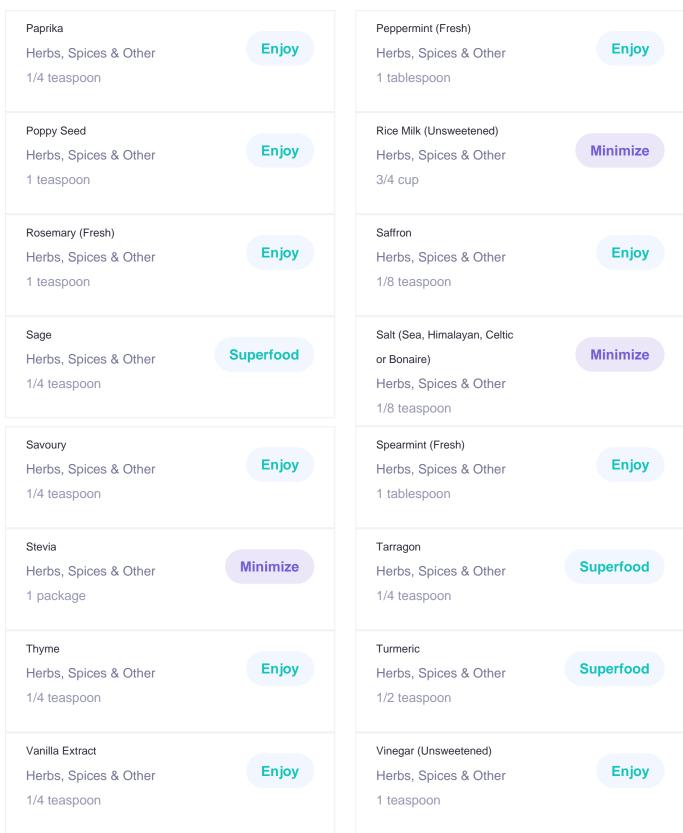


Customer Name: Charles Warden



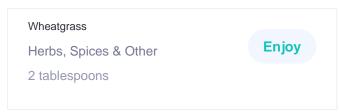


Customer Name: Charles Warden





Customer Name: Charles Warden





Customer Name: Charles Warden

**DOB:** 04/05/1985

# **Supplements**

Look for supplements with the following ingredients:



## **Probiotics**

Look for supplements with the following ingredients:

L. bulgaricus, L. rhamnosus, L. plantarum, Strep thermophilus, and Bifidobacterium species (lactis, bifidum)

Offered by Klaire Labs, or other vendors.

To support the growth and activity of beneficial microorganisms and enhance the balance in your microbial ecosystem



## **Prebiotic**

Look for supplements with the following ingredients:

Fiber with jerusalem artichoke and acacia

Offered by <u>Hyperbiotics</u>, or other vendors.

To help specific microbes in your gut produce short-chain fatty acids, like butyrate, and other beneficial nutrients that can balance the microbiome or counter some of the pro-inflammatory or opportunistic activities



Customer Name: Charles Warden

**DOB:** 04/05/1985



#### **Berberine**

Look for supplements with the following ingredients:

Berberine

Offered by Thorne, Integrative Therapeutics, or other vendors.

Take for 45 days to support healthy digestion and blood sugar control. If you are already taking diabetes medications, please do not take Berberine.



## Curcumin

Look for supplements with the following ingredients:

Curcumin

Offered by Thorne, or other vendors.

To boost the activities of anti-inflammatory functions for your microbiome and your gut wellness

Viome recommendations are not evaluated or approved by FDA and are not required to be approved by FDA. The recommended food and supplements are intended to support general wellbeing and are not intended to treat, diagnose, mitigate, prevent, or cure any condition or disease. Please seek advice from your medical doctor and check all ingredients for contraindications, known allergies or sensitivities. Viome does not endorse or partner with any supplement manufacturers. There may be several brands or vendors listed as examples. However, Viome does not take any responsibility for the quality of any commercial products, which contain but are not limited to the ingredients recommended for you.



Customer Name: Charles Warden

**DOB:** 04/05/1985

# **Viome Methodology**

Microbial total RNA is extracted, ribosomal RNA molecules are removed from total RNA, and the remaining RNA molecules are sequenced on Illumina NextSeq or NovaSeq. Proprietary bioinformatics algorithms are used to perform taxonomic classification and functional analysis of the sequencing data.

Whole blood total RNA is extracted, polyadenylated transcripts are captured from total RNA and sequenced on Illumina NextSeq or NovaSeq. Proprietary bioinformatics algorithms are used to perform quantitative gene expression analysis of the sequencing data. Results are reported to Viome customers in the context of integrative functional health themes communicated as scores derived largely from proprietary pathway content and analytics methodology. Each score is built to account for molecular pathway topology and strength of literature evidence manually curated by translational science experts in systems biology. Scoring results are CLIA-validated and are end-to-end automated in the production system, which uses each customer's gene expression data as input.

# **Method Limitation**

Viome's results and recommendations are based on our ability to identify and quantify thousands of microbial taxa. Such vast diversity has not been captured in the genomic databases, so it is impossible to assess it comprehensively. There are microorganisms that thrive in the gut whose genomes have not been sequenced. Viome is unable to identify those specific organisms, but can identify their near neighbors, which have similar homology. There are also taxa that we cannot discriminate because of their sequence similarity, for example at the strain level. There are some RNA transcripts that may not always align and match to specific known organisms, which may be due to the fact that these sequences are poorly characterized, reliable consensus sequence may not be available for reference. Viome monitors the growth of public genomic databases and will update its own databases when there is sufficient new information to be worthy of incorporation.

Detection of a microorganism by this test does not imply having a disease. Similarly, not detecting a microorganism by this test does not exclude the presence of a disease-causing microorganism. Further, other organisms may be present that are not detected by this test. This test is not a substitute for established methods for identifying microorganisms or their antimicrobial susceptibility prole. Results are qualitative and identify the presence or absence of identified annotated organisms.

Customer Name: Charles Warden

**DOB:** 04/05/1985

Viome's results and recommendations are based on our ability to identify and quantify thousands of human transcripts. While the test has been clinically validated and shows very high precision, it also has some limitations. As the presence of transcripts nears the limits of detection, the ability of the test to accurately detect them is diminished. This is simply due to the uneven distribution of molecules in liquid volumes, causing small random changes in the transcript concentrations. Scores rely on detection of expressed genes, as well as their levels of expression against the reference population cohort. Hence, certain sample results may be affected by any skewing or sampling biases of the reference cohort, as opposed to solely the biology of the given customer. Scores also are limited by our current understanding of actionable or biologically meaningful insights and literature coverage to date. As Viome's reference population expands and current knowledge grows, these limitations become more negligible.

The Gut Intelligence Test was developed by, and its performance characteristics determined by Viome Inc. It has not been cleared or approved by the US Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This laboratory is registered under CLIA (32D2156145) to perform high complexity testing. Sequencing was performed at CLIA (). Contact Viome for any further questions.

The Human Gene Expression test was developed by, and its performance characteristics determined by Viome Inc. It has not been cleared or approved by the US Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. This laboratory is registered under CLIA 32D2156145 to perform high complexity testing. Sequencing was performed at Viome, Inc. CLIA 32D2156145. Contact Viome for any further questions.

# Y I O M E

CHARLES WARDEN'S RESULTS

VERSION: 1.14.2