

## Short and Long Term Benefits from Consuming Nutrient-Dense Foods

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### Abstract

It is critical for companies that sell products affecting health and wellbeing to regularly ask their customers how effective their offerings are. In 2017, Nutrient (hereafter referred to as The Company), which manufactures healthy, nutrient-dense foods, conducted such an audit, in which it asked its customers how its products affected health and wellbeing. After a couple of months using The Company's foods, the customers reported having more energy, losing weight, feeling fuller, being more focused and alert and less moody, and having improved health. The purpose of this current study was to confirm these findings in two cohorts: (1) Year-long customers: a sub-set of the 2017 data set who have been consuming the nutrient-dense foods for at least one year; and (2) Six-month customers: customers who placed at least one food order over a six-month span. The same ten questions were asked of each group and probed areas of wellbeing (e.g., energy, mood, focus) and health (e.g., stronger body, improved health). The responses were: Yes, No, or Not Applicable. Results for each question were presented as: % Yeses (number of Yeses/ sum of the total number of Yeses + number of Nos x 100).

Those responding to the audit were shipped enough of The Company's foods to average one serving daily in each of the six months of the audit. All percentage Yeses exceeded 80%, except for the Improved mood (73%) in the Year-Long customer group. The percentage of Yes responses were similar between the Year-long customers and Six-month customers. The percentage of Yeses differed by no more than 6 percentage points between the two groups, except for Improved mood (73% Yeses for the Year-long customers and 85% for the Six-month customers; 12-point difference). The questions that had the highest percentage of Yeses (>90%) in both the Year-long and New customer groups were Fullness and satisfaction and Improved health.

In summary, the present findings support The Company's 2017 audit, showing that consuming nutrient-dense foods leads to better health and wellbeing beyond nourishment after a couple of months of use and that the benefits extend beyond one year. Each answer to the audit questions exceeded 80% Yeses except one. The best responses in both groups related to feeling full and satisfied and having improved health. These findings support the notion that eating one of The Company's nutrient-dense food daily makes one feel better and improves health.

**Keywords:** Nutrient-dense foods; Quality of life indicators; Lasting effects of nutrient-dense foods

### Introduction

Social media has led the way to social trust, and companies are replacing traditional methods of advertising with customer reviews [1,2]. The public now uses consumer reviews of products to dictate purchases. Ninety-one percent of people regularly, or occasionally, read online reviews, and 84% trust online reviews. This shift to customer reviews to sell products and present product benefits is especially advantageous for companies that sell products delivering outcomes related to improved health and wellbeing. It is critical that health and wellness companies regularly ask its customers how their products are doing.

Nutrient, (hereafter referred to as The Company; www.nutrientfoods.com), is a privately-held company that manufactures and sells nutrient-dense foods that are low in things that promote chronic disease – salt, sugar, and saturated fats. The diet of most Americans is nutrient-poor and loaded with components that increase disease risk [3-5]. In fact, at least 80% of chronic disease comes from poor lifestyle choices including diet. In 2017, The Company conducted a customer audit that probed health and wellness changes after consuming at least one food offering daily [6]. After two months, the customers stated that they experienced improvements in: wellbeing (e.g., improved energy and sleep; feeling better); appearance (e.g., better looking hair, skin, and nails); satiety (e.g., fullness, reduced cravings); body weight (e.g., weight loss, reduction in waist circumference); and general health (e.g., better medical results, lower blood pressure, and less joint pain). These findings were impressive in that consuming just one of The

Company's healthy food offering improved the health and wellbeing of its customers within a short time.

The purpose of this study was to confirm the findings of The Company's 2017 audit. This present study audited two groups: (1) Year-long customers, which are a sub-set of customers, who participated in the 2017 audit and have been consuming the nutrient-dense foods for at least one year; and (2) Six-month customers, who have consumed The Company's foods for up to six months.

### Methodology

#### Two cohorts

Individuals (n=580), who had at least one order of The Company's foods shipped in June to the end of November 2018, were audited using an online questionnaire. In exchange for completing the audit, each respondent was sent The Company's Cookies, a value of \$ 25, at no charge.

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Two cohorts were audited with the same ten questions:

- 1. Year-long customers:** This is a sub-set of those who participated in the 2017 audit. This group has been regularly ordering The Company's foods for at least one year.
- 2. Six-month customers:** This is a group of new customers who made at least one purchase of The Company's foods during the six-month study period.

### The audit

The audit included ten questions that covered: low energy levels, poor focus and alertness, and moodiness. Other questions probed observations such as the feeling of fullness, eating better, and having fewer mid-day crashes. General health and body strength were also questioned.

The responses to the questions were: Yes, noticed a difference; No, no improvement, and Not Applicable. Data were presented as percentage of the Yes responses and determined by: total number of Yes responses/Sum of Yes + No responses x 100. Those audited also provided their gender, date of birth, and the amount of The Company's food purchased. Meal counts were determined by the number of meals sent to each person monthly.

### Nutrient-dense foods: the intervention

Those audited received at least one order of The Company's food during a six-month period. Each of The Company's foods contained 35% of the Daily Value (DV) for every vitamin and mineral, except sodium and chloride. The Company's bars have 25% DV for these nutrients, and the cookies have at least 20% DV. The Company offers a variety of 28 products like shakes (chocolate, vanilla, coffee), sauces (e.g., cheese, beef flavor) with noodles or rice, hot and cold cereals (e.g., sugar-free oatmeal, apple cinnamon oatmeal, maple almond, chocolate), bars (chocolate chip, honey granola, peanut butter), and cookies (chocolate chip, peanut butter, oatmeal raisin).

### Results and Discussion

Audits were sent to 580 individuals with 121 responding, which is a 21% response rate. Typical customer response rates are 10-15% [7]. The Year-long customers (n=38) and Six-month customers (n=83) were similar in age (55 years for the Year-long group and 51 years for the Six-month customers), and the percentage of males (both close to 50%) (Table 1). All customers ordered an average of one serving of The Company's foods daily each month over six months. These findings suggest that an older demographic may be more concerned about eating right and taking care of their health than younger individuals. And both short-term (six months) and long-term (one year) customer groups felt that one meal each day over six months was right for them.

All percentage Yeses exceeded 80%, except for the Improved mood (73%) in the Year-Long customer group (Table 2). This high percentage of individuals responding Yes to the ten questions suggests that most customers are deriving benefits from The Company's foods. From the 2017 audit, customers began to experience benefits within two months and it is likely the same in the current audit [6].

The percentage of Yes responses were similar between the Year-long customers and Six-month customers (Table 2). The percentage of Yeses differed by no more than 6 percentage points between the two groups, except for Improved mood (73% Yeses for the Year-long customers and 85% for the Six-month customers; 12-point difference).

Demographics	Year-long customers	Six-month customers
Number	38	83
Age (average, years)	55	51
% Males	55	49
Average number meals shipped each month over a six-month period	1.35 meal/day	1 meal per day

Table 1: Demographics of audit responders.

Questions	Year-long customers (%)	Six-month customers (%)
Increased energy	84	86
Feeling better	100	95
Fullness and satisfaction	97	94
Fewer mid-day crashes	95	89
Improved mood	73	85
Improved health	91	90
Stronger body	83	81
Improved focus	84	82
More alert	83	85
Improved eating habits	89	89

\*Data were presented as percentage of the Yes responses and determined by: total number of Yes responses/Sum of Yes + No responses x 100.

Table 2: Percentage of Yes responses to audit questions.

The questions that had the highest percentage of Yeses (>90%) in both the Year-long and Six-month customer groups were Fullness and satisfaction and Improved health. These findings are not surprising, because we have shown that The Company's foods promote weight loss without hunger and lower blood pressure commensurate to amounts seen with pharmaceuticals (10-20% lowering effect) [8-10]. Most importantly was that the Year-long and Six-month customer groups responded similarly, suggesting that benefits of The Company's foods are realized within a couple of months and sustained for more than one year.

In the Year-long customer group, all responses were greater than 80% Yeses, except for 73% Yeses for Improved mood, which may explain why these long-term customers continue to purchase The Company's foods. Notably, 100% Yeses were reported Feeling better and 97% for Fullness and satisfaction. These findings, coupled with reports of Improved focus (84% Yeses) and More alertness (83% Yeses), also support a reason for repeat purchases and continued use of The Company's foods for more than one year.

In the Six-month customer group, the percentage of Yes responses were at least 80%. The highest percentage of Yes responses were for Feeling better (95%), Fullness and satisfaction (94%); and Improved health (90%). These were followed by Improved eating habits (89%) and Increased energy (86%). These salutary effects occurred in only a couple of months.

### Summary

In summary, the present findings support The Company's 2017 audit, showing that consuming nutrient-dense foods leads to better health and wellbeing beyond nourishment after a couple of months of use and that the benefits extend beyond one year. Each answer to the audit questions exceeded 80% Yeses except one. The best responses in both groups related to feeling full and satisfied and having improved health. These findings support the notion that eating one of The Company's nutrient-dense food daily makes one feel better and improves health.

## Conflict of Interest

Mr. Marsland and Mr. Castleman founded Nutrient, the company from which customers were audited for this study. Dr. Bell is a full-time employee of Nutrient.

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