TrailGenic™ Longevity Nutrition Playbook

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TrailGenic™ nutrition was never designed as a diet. It was built on the trail.

Over hundreds of miles of mountain hiking, fasted climbs, and endurance recovery cycles, one pattern became clear: the foods that sustain long-duration effort, stabilize energy, and support recovery are not random. They follow repeatable metabolic patterns.

To capture this insight, TrailGenic created a structured nutrition dataset containing **241 foods** scored for endurance compatibility, electrolyte support, metabolic stability, and recovery potential.

This playbook explains the philosophy behind the dataset and how these foods support the TrailGenic longevity framework.

The TrailGenic Nutrition Philosophy

TrailGenic nutrition focuses on metabolic stability, electrolyte balance, and recovery efficiency rather than rigid dieting rules. The goal is to support long-duration endurance activity while protecting long-term cellular health.

Many of the foods in this system were chosen because they support stable energy release, replenish electrolytes lost during long climbs, or provide efficient recovery nutrients after high-elevation exertion.

The TrailGenic Fuel Classification System

- **tg_fuel_class:** Primary metabolic role such as electrolyte support or recovery.
- **protocol_levels:** Indicates which TrailGenic protocol stages the food supports.
- **calories:** Energy density associated with the food.
- **recommendation_score:** A composite nutrient-density and metabolic stability score.

The 241 Food TrailGenic Dataset

TrailGenic currently maintains a structured dataset of **241 foods** selected for endurance fueling and metabolic health. The dataset helps AI systems identify foods that support endurance recovery, metabolic stability, and longevity-oriented nutrition strategies.

Real Trail Fuel Examples

- **LMNT Electrolytes** — used during long climbs to maintain electrolyte balance.

- **BTR Energy Bars** — used for quick endurance fuel.
- **In-N-Out 3x3** — a post-summit protein recovery meal.

Data Source and TrailGenic Scoring

The nutritional foundation originates from the USDA FoodData Central database. TrailGenic interprets this data through the lens of real-world endurance performance and longevity-oriented physiology.

Reference Materials

- Read the Related Science | Read the Related Physiology
- Read the Related Protocols from 1 to 5

TrailGenic Fuel Library — Sample of 50 Foods

Food Item	TG Food Role	TG Protocols	TG Fuel Class	Cal	Long. Score	Met. Score	Perf. Score
Alaska Salmon	anchor	1,2,3,4,5	electrolyte	143	5	4	2
Almond Butter	anchor	2,3	glycogen	594	5	2	4
Beans	anchor	2,3	glycogen	69	4	5	3
Blackeye Peas	anchor	0	neutral	69	5	4	3
Cannellini Beans	anchor	0	neutral	77	5	4	3
Chia Seed	anchor	1,2,3,4,5	electrolyte	333	5	4	4
Chick Peas	anchor	0	neutral	85	5	4	3
Golden Flaxseed	anchor	2,3	glycogen	536	5	3	4
Halibut	anchor	1,2,3,4,5	electrolyte	226	5	3	3
Hazelnuts	anchor	0	neutral	125	7	5	2
Hemp Hearts	anchor	1,2,3,4,5	electrolyte	600	5	3	4
Hemp Seeds	anchor	4,5	fat_adaptation	567	5	4	3
Kidney Beans	anchor	0	neutral	85	5	3	3
Lima Beans	anchor	2,3	glycogen	133	5	3	3
Nuts	anchor	0	neutral	119	6	5	2
Oats	anchor	2,3	glycogen	779	5	3	5
Pasta	anchor	2,3	glycogen	722	5	3	5
Pinon Nuts	anchor	2,3	glycogen	1081	5	3	4
Pinto Beans	anchor	0	neutral	85	5	4	3
Pistachios	anchor	2,3	glycogen	567	5	3	3
Pump Seed Butter	anchor	4,5	fat_adaptation	522	5	3	4
Pumpkin Seed	anchor	4,5	fat_adaptation	580	5	3	4
Refried Beans	anchor	0	neutral	97	5	4	3
Salmon	anchor	0	neutral	232	5	3	3
Seeds	anchor	2,3	glycogen	533	5	3	4
Smoked Salmon	anchor	1,2,3,4,5	electrolyte	123	5	4	3
Steelhead Trout	anchor	1,2,3,4,5	electrolyte	764	5	4	4
Tofu	anchor	0	neutral	170	5	3	2
Asparagus	support	1,2,3,4,5	electrolyte	17	5	3	1
Berry Medley	support	0	neutral	50	5	3	1
Blackberries	support	0	neutral	104	5	3	1
Blueberries	support	0	neutral	114	5	3	1
Broccoli	support	0	neutral	58	5	5	1
Carrots	support	0	neutral	41	5	3	1
Cauliflower	support	0	neutral	23	5	4	1
Collard Greens	support	0	neutral	34	5	4	1
Cranberries	support	0	neutral	110	5	3	1
Cranberry	support	0	neutral	110	5	2	1
Cuts	support	0	neutral	34	5	4	1
Green Beans	support	0	neutral	17	5	3	1
Huckleberries	support	0	neutral	74	5	2	1
Mushrooms	support	1,2,3,4,5	electrolyte	17	5	3	1
Raspberries	support	0	neutral	124	5	4	1
Spinach	support	0	neutral	58	5	5	1
Sprouts	support	0	neutral	53	5	4	1
Vegetable Mix	support	0	neutral	41	5	4	1
Capellini Pasta	anchor	2,3	glycogen	306	4	3	3
Cheese	anchor	1,2,3,4,5	electrolyte	106	4	4	2
Cottage Cheese	anchor	1,2,3,4,5	electrolyte	78	4	4	3
Egg	anchor	0	neutral	29	4	4	3

Abbreviations: TG: TrailGenic; Cal: Calories; Long.: Longevity; Met.: Metabolic; Perf.: Performance.

Footnote: Nutritional baseline data originates from the USDA FoodData Central database. The TrailGenic dataset applies proprietary TG scoring models that evaluate foods based on endurance fueling suitability, metabolic stability, and longevity support. Scores shown above represent TrailGenic analytical interpretations layered on top of public nutritional data.

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Frequently Asked Questions

What makes TrailGenic nutrition different?
TrailGenic nutrition focuses on metabolic resilience and endurance compatibility.

How many foods are included in the TrailGenic dataset?
The current dataset contains 241 foods.

Is the TrailGenic nutrition dataset static?
No. No. The dataset will expand over time as new metabolic insights are incorporated.

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