

Papa's Got a Brand New Bag

A potato can be a staple, a diet story or a low-calorie product. Human Baseline's next tool asks how much food a calorie target actually represents.

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From Andean staple to low-calorie supermarket product — what are we asking the potato to do?

I was working on a calculator for how much food a population would need when I noticed potatoes in my local supermarket being sold on the promise of fewer calories.

The product was Power Potato. Its producer currently advertises approximately 35 percent fewer calories than ordinary potatoes.[1] I had been thinking about getting enough energy into people. Here was a bag offering less of it.

Someone might want a familiar meal with a different energy content. We are asking the same food to solve different problems.

Penn Jillette supplies another version. His publisher introduces *Presto! How I Made Over 100 Pounds Disappear and Other Magical Tales* as a personal transformation story involving a potato diet.[2] Here the potato is part of one person deliberately changing what he eats, rather than a population trying to obtain enough.

Between Penn, a supermarket bag and my calculator, the potato was starting to look less like a boring vegetable and more like a question with several different settings.

Before the new bag

The title borrows a turn from James Brown, but *papa* has another connection: the Spanish word for potato comes from Quechua.[3] Long before its arrival in a Danish supermarket, the crop was being developed through the knowledge and work of Andean farming communities.

The International Potato Center describes domestication near Lake Titicaca thousands of years ago, and a continuing diversity of native varieties maintained on farms and within communities. Those varieties have been selected for qualities including taste, texture and adaptation to difficult growing conditions. The history is not simply that somebody discovered a useful object and Europe subsequently found applications for it. Cultivation, selection and exchange were already part of the food system.[4]

Storage belonged to that knowledge too. Research on Indigenous food systems in the Bolivian Andes describes *chuño*, a potato product preserved through a traditional freezing and drying process. That is a different intervention from changing the calorie content of a fresh retail product: it changes when food can be available.[5]

This matters to how I think about Human Baseline. The question is not only whether something can grow. It is whether people can depend on food across time. A harvest, an edible meal and a dependable supply are related achievements, but they are not the same achievement.

Andean farmers continue to maintain that knowledge and diversity. They are part of the crop's present, not only its origin story.

A staple is not a security system

Ireland makes the next distinction harder to ignore. A useful staple can support a population while also becoming a dangerous point of dependence. Potato blight was central to the Great Famine, but crop failure alone is not an adequate account of what happened to people.

Ireland's Great Hunger Museum places food access, government policy and continuing food exports alongside the failure of the potato crop. Its account does not let the history stop at a diseased plant.^[6] The distinction matters: what a territory produces and what its people can actually obtain are different questions.

That distinction cuts both ways for my project. It supports asking why hunger persists, but it also stops a production calculation from becoming an answer by itself. A country can have food without every person having secure access to it. And a system designed around one exceptionally useful crop still needs to consider what happens when that crop fails.

The lesson is not to reject the potato. It is to avoid mistaking the strength of one ingredient for the resilience of the arrangements around it.

The Soviet shortcut

A proposal for a guaranteed material baseline can quickly be answered with a single word: Soviet. There is a real potato history behind the political association. FAO's 2008 potato report records that, by 1973, the then-Soviet republics of Russia, Belarus and Ukraine together were producing more than 100 million tonnes of potatoes annually.^[7] That is a harvest figure, not a claim about how many people received an adequate diet.

The institutions were also less uniform than a slogan suggests. FAO's account of agriculture around the end of the Soviet period describes personal household plots and garden plots alongside state and collective farms.^[8] Those arrangements matter, but their existence does not establish which ownership model worked best.

For Human Baseline, the useful questions are more specific. Who produces the food? Who can obtain it? How are mistakes corrected? What information reaches the people making decisions? Can people choose something else, or start a business around it? A proposed food floor has to answer those questions rather than merely insist that its intentions are different.

More than starch, less than a complete answer

The potato's nutritional usefulness is part of why it keeps returning to these stories. It is not simply a container for starch. The NHS identifies potatoes as a source of energy, fibre, B vitamins and potassium, and notes their contribution to vitamin C intake. Preparation matters too: boiling can move some nutrients into the cooking water.^[9]

Energy equivalence does not establish nutritional adequacy. Nutritional adequacy alone does not establish food security. An adequate diet depends on the amounts, combinations and quantities eaten; food security also requires dependable physical and economic access over time.^[10]

There is also a physical question hidden inside the arithmetic: how much food would somebody actually have to eat? Even before prices or logistics enter the model, kilograms on a plate can reveal a problem that a calorie total leaves abstract.

Count the potatoes

The first Human Baseline tool (<https://hedegreenresearch.com/tid/human-baseline-population-energy/>) starts with population and a chosen daily calorie figure. The new food layer (<https://hedegreenresearch.com/tid/human-baseline-food/>) takes that scenario and converts it into the energy-equivalent edible mass of one selected food. It shows both population totals and per-person averages for a day, an average month and a year.

Take one deliberately simple example: one person, a selected target of 3,000 kcal a day, and all that energy assigned to the catalog's boiled-potato observation of 85 kcal per 100 grams. That works out to approximately 3.53 kilograms of edible boiled potato per day.^[11]

If we additionally assume 150 grams of edible mass per potato, the result is about 23.5 potato equivalents — roughly 24. The 150 grams is an editable illustration, not a measured standard potato size. The 3,000 kcal is a scenario input, not a recommendation for every person.

Now the question has a physical shape. Repeating that scenario for a year gives about 1.29 tonnes per person. It does not mean that this is a sensible menu, or that this amount must be harvested. It is edible boiled mass under the stated composition assumption; purchased weight, peeling and cooking yields are separate questions. The tool keeps raw and boiled observations separate rather than pretending that one supplies a conversion factor for the other.

The point of the example is not to nominate twenty-four potatoes as a day's menu. It is to make the scale visible enough to question. Which foods would we combine? What would that do to mass, nutrients, preparation and cost? Changing the ingredients should change the calculation through their recorded properties, not through a special rule hidden in the code.

The public app (<https://human-baseline-food-engine-8hbsy3wcvaagbgkvxiulx5.streamlit.app/>) lets readers explore that first conversion. Its versioned source release (<https://github.com/DennisHedegreen/human-baseline-food-engine/releases/tag/v0.4.0>) preserves the calculation and its inputs. The later questions are still work to do.

Enough food, room for difference

Back in the supermarket, the lower-calorie potato does not look like an enemy of this project. It looks like an example of how many different things people might want from food once we stop treating one goal as universal.

Someone may want fewer calories. Someone else may need more energy in a manageable amount of food. People also want particular flavours, familiar dishes, convenience or something they have never tried before. Securing enough food would not make those differences disappear.

My proposal is to make adequate food a dependable floor, not to make everybody eat an identical meal. Above that floor, I still imagine markets, producers and people making and selling things to one another. I suspect that less insecurity could leave more room for that activity, but this calculator has not demonstrated the economic effect. It has given us one inspectable piece of a much larger question.

The next layer is several foods and explicit shares of energy. Nutritional assessment and defensible prices must then earn their place in the model. I do not want to abandon the idea because those steps exist; I want to build them without pretending they have already been completed.

The potato has been a staple, a stored provision, a vulnerability, a diet story and a differentiated supermarket product. The new bag does not erase the old jobs.

A food system should provide enough food reliably while leaving room for different preferences.

— Dennis Hedegreen, trying to see the structure

Sources

1. Power Potato, product and retailer information (<https://powerpotato.dk/>), checked 16 October 2026. The percentage is the producer's stated comparison, not an independent test or a calculation against this tool's DTU observation. ↩
2. Simon & Schuster, Presto! by Penn Jillette (<https://www.simonandschuster.com/books/Presto!/Penn-Jillette/9781501139536>), About the Book, checked 16 October 2026. Used to identify and attribute the personal story, not to assess the diet's effectiveness or safety. ↩
3. RAE-ASALE, papa, second entry (<https://dle.rae.es/papa>), and James Brown, The Legacy, A Brand New Bag (<https://jamesbrown.com/pages/the-legacy>), checked 16 October 2026. The title is wordplay; no song lyrics are reproduced. ↩
4. International Potato Center, Native Potato Varieties (<https://cipotato.org/potato/native-potato-varieties/>), checked 16 October 2026. ↩

5. Indigenous Food Systems and Climate Change: Impacts of Climatic Shifts on the Production and Processing of Native and Traditional Crops in the Bolivian Andes (<https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2016.00020/full>), chuño processing discussion, checked 16 October 2026. ↵
6. Ireland's Great Hunger Museum, Learn (<https://www.ighm.org/learn.html>), policy and food-export discussion. This essay adopts no quantitative export or counterfactual mortality estimate from that account. ↵
7. FAO, International Year of the Potato 2008: New Light on a Hidden Treasure, Europe (<https://www.fao.org/4/i0500e/i0500e03e.pdf>), printed page 67, checked 16 October 2026. The historical figure concerns the three named Soviet republics; later Russian figures on that page are not treated as Soviet data. ↵
8. FAO, Water Report 15, Organization of the agricultural sector (<https://www.fao.org/4/w6240e/w6240e03.htm>), discussion of the pre-1990 structure. No potato-specific household production share is inferred. ↵
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10. FAO, An Introduction to the Basic Concepts of Food Security (<https://www.fao.org/4/a1936e/a1936e00.pdf>), page 1, The Four Dimensions of Food Security, checked 16 October 2026. Availability, access, utilization and stability must be considered together; this calculator establishes only energy-equivalent mass under chosen inputs. ↵
11. DTU Frida, food record 801 (<https://fcdb.fooddata.dk/food/11/801>), captured 14 October 2026; the frozen source extract used by v0.4.0 (<https://github.com/DennisHedegreen/human-baseline-food-engine/blob/1f6c52657ef3b0d4550e2ef9e94dbe347da31cb1/data/human-baseline-food/source-extracts/dtu-food-801-2026-10-14.json>), preserves that input. The example was reproduced locally through the unchanged released calculation core, not exported from the hosted app. The 365-day year and average month of one twelfth of that year repeat the same scenario rather than forecast changing consumption. ↵

RELATION MEMORY

CONTINUES [Human Baseline Starts with the Population](#) · Moves from population and chosen energy to one food's edible mass and illustrative item equivalents.

RETURNS TO [Why Should Anyone Go Hungry?](#) · Returns to the food-floor question through one crop's different uses, without treating a conversion as proof of dependable provision.

NEARBY [Money Should Not Be the Door to Survival](#) · Related argument about survival guarantees and room for market choice; not a conclusion established by this tool.

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