

**Time to Get Real:
A Food Assessment of Dining at Pomona College**

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Table of Contents

Acknowledgements	i
Introduction	1
Literature Review	3
A Changed System	4
Compromised Well-Being.....	9
Devastated Planet	17
Animal Welfare	23
The Revivalist Response: Real Food.....	25
Methodology	29
The Calculator	29
Health Concerns	31
Local/Community-Based	34
Ecologically Sound	35
Humane	37
Fair	38
Transparency	38
The Study Site	38
The Study	40
The Assessment.....	42
Results	46
Food Purchased by Category.....	46
Real Food Purchases	46
Ingredient Concerns	47
Real Food Purchases by Category.....	47
Real Food Purchases by Attribute.....	48
Purchases by Category and Percent Real Food.....	48
Discussion	50
Limitations	52
Other Schools' Programs	55
Recommendations	58
Conclusion	65
Works Cited	67
Appendix	73
Dollars Spent on Food by Category and Attribute	73
Total Dollars Spent on Real Food A, B and Conventional Food by Category	73
Percent of Total Dollars Spent on Real Food A, B and Conventional Food by Category	73
The Real Food Calculator	74
Notes	75

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Introduction

Walk through the heavy wooden doors of Frary Dining Hall and before you lays a bounty of selection. A lengthy salad bar, several soups, two special order stations, a full line of entrees, the sandwich bar, vegan/vegetarian station, and fresh fruits, as well as a wide selection of drinks and desserts, are available to students every day. Pomona College students, as far as institutional dining goes, are considered to be lucky. The school makes a great effort to assure its students are well cared for. But look closer and something is sorely lacking.

In an environment where students are encouraged to “embrace new ideas, take initiative, ask questions and challenge the status quo”¹ few stop to think critically about their food. Even something as simple as a slice of pizza raises a plethora of critical questions that are not being asked in this highly critical environment. Who grew the tomatoes? What is the environmental impact of the onions? What was the quality of life of the cow whose milk made this cheese? Where did these mushrooms come from and how did their production affect the community there? How was the pig, whose muscle is now this sausage, slaughtered? Was producing and preparing this food a positive experience for the people involved? What is actually in this pizza, what cannot be seen? How pure is it, how free of dangerous chemicals? What affect will eating this pizza have on one’s body?

Not only are these questions not being asked, but the information that could answer them is not available. These issues are not unique to Pomona, but unfortunately common throughout the entire food system. The Real Food Challenge, a national student movement, is a response to this problem. Pomona is one of 13 schools to pilot The Real Food Calculator, a metric used to evaluate how much Real Food is being purchased and served by academic institutions. While there is no specific definition of Real Food, this term refers broadly to food that is healthy for people and produced in a conscientious manner that is respectful of the workers, environment, animals, and

communities involved. For one month I tracked all of the food purchased by Frary Dining Hall and assessed each item based on the potential health concerns of its ingredients and whether it is local, ecologically sound and/or humane to determine whether it should be considered Real.

This project found that Pomona's commitments to student health and well being, sustainability, social justice and animal welfare are not being reflected in the institution's food choices. According to school's Sustainability Integration Office: "Pomona College is committed to leadership in sustainability, just as we are committed to leadership in providing an excellent educational experience."² There are serious inconsistencies between this stated purpose and Pomona's actions. The millions of dollars Pomona spends annually on food are not being directed to suppliers with the same mission as the school. While in many ways Pomona has shown itself to be a leader in areas of sustainability, student well being, social justice and animal welfare, its food purchases do not meet these otherwise high standards. The completion of a Real-Food assessment presents a starting point from which these inconsistencies can be addressed. By applying the same dedication to food purchasing as Pomona has done in so many other areas where it is a leader among liberal-arts institutions, Pomona can become a leader in campus dining.

Literature Review

“Only when the last tree is cut; only when the last river is polluted; only when the last fish is caught; only then will they realize that you cannot eat money.” – Cree Indian Proverb

Today’s food system is failing on almost every front. Most food offers short-term sustenance, but little else other than a plethora of problems. Food today is of poor nutritional content and is literally making people sick, sometimes even killing them.³ Growing food, what used to be one of the most natural and organic experiences a person could undertake, is now one of the biggest detriments to the Earth.⁴ The people and animals involved in food production fare no better. Small farmers have been put out of business as global agribusiness dominates the picture more and more.⁵ Animals are reduced to mere production units and treated horribly.⁶ The only parties that seem to profit from this system are the wealthy corporations whose coffers continue to swell.

What is particularly confounding is that despite the pervasive, negative impacts of the food system, the benefits to eaters are not what one might expect. While Americans today may have greater access to plenty of cheap food, the types of foods available have brought on a new slew of problems.⁷ Many Americans are now chronically overweight and undernourished, an irony likely to be brought on only by the western diet.⁸ In 2004, two thirds of Americans were overweight or obese (a number that has since grown),⁹ while at the same time 15 percent live in households that are food insecure, meaning they do not have regular access to the vitamins, minerals and other dietary elements necessary to maintain basic health.¹⁰ What is particularly astonishing is that these populations frequently overlap.¹¹

This broken food system, harming nearly everyone and everything involved, largely benefits a select handful. These are the already wealthy corporations that earn considerable profits from such practices. It is the profit motives of these corporations that have molded the food system into

what it is today.¹² Today, a movement of people who care about what they eat and how their food is made has been growing. People are seeking Real Foods, those that are traditional, unprocessed and good for the people eating them as well as the people who grew them, the animals involved in production and the environment.

A Changed System

Less than a century ago, farming in the United States was predominantly a small-scale affair. In a short amount of time, small farms as they once were have vanished and been replaced by industrial agriculture and global agribusiness.¹³ Every day for the last 50 years, an average of 219 farms have vanished in the United States, for a total over 4 million farms lost in the last half century.¹⁴ Several factors have contributed to the industrialization of agriculture, the three main forces being the Green Revolution, the mechanization of farming, and the consolidation of ownership by large, international corporations.

Starting in the mid-1940s, the Green Revolution fundamentally changed the way people grow food, as mounting concerns about the ability to feed the world's rapidly growing population prompted new discoveries in food production. In the early 1940s, Norman Borlaug discovered that soil fertility could be manufactured in a factory.¹⁵ The combination of new high-yield seeds with synthetic, fossil fuel-based fertilizers and pesticides, and hydrocarbon-fueled irrigation dramatically increased crop yields.¹⁶ Farmers quickly became dependent on store purchases rather than natural techniques to make their crops grow.¹⁷ While fossil fuel-based inputs certainly improved short-term crop outputs, they came at a high price and locked farmers into continued use.¹⁸

The shift to fossil fuel-based mechanized farming – as opposed to human- and animal-based labor – also forced farmers to depend on other outside inputs with a high price tag. Tasks previously accomplished by hand or with the aid of animals were now completed with new

machines, such as tractors, grain harvesters and milking machines. Massive farm machines dramatically increased the amount of work a single farmer could do and reduced the need for farm labor, putting farm workers out of a job. By 1958, one-third the number of farmers could produce 55 percent more than they had 20 years earlier.¹⁹ Giant tractors and combined harvesters took the place of manual farm labor, along with chemical inputs such as pesticides, the use of which quadrupled from 1947 to 1960.²⁰ Farm labor was being replaced by fossil fuel-based inputs.

The forces that industrialized agriculture also induced the consolidation of food production into the control of relatively few agribusinesses, rather than numerous small farms. As small farms tried to reorient to this new industrial style of farming, many could not bear the costs of the supplies and equipment required.²¹ As a result, it now made economic sense (and was often the only option) for farms to consolidate into larger and larger operations. This so called “rationalization of labor” meant that small farms could no longer afford to operate as they once did and were gobbled up by massive, corporate-owned farms.²² The half million small farms that still exist are often locked into supply contracts with corporate buyers, the only viable option in the structure of today’s food system.²³ These ironbound contracts dictate a farmer’s every action and mean razor-thin profits and a lifetime of debt.²⁴

Today, relatively few corporations dominate the agricultural industry. The following table lists major industries and the market share held by top corporations.

Table 1. Concentration ratios of the top agricultural firms, 2001²⁵

<u>Industry</u>	<u>Corporations</u>	<u>Market Share</u>
Beef packers	Tyson, ConAgra, Cargill, Farmland	81 %
Corn exports	Cargill-Continental Grain, ADM, Zen Noh	81 %
Soybean crushing	ADM, Cargill, Bunge, AGP	80 %
Soybean exports	Cargill-Continental Grain, ADM, Zen Noh	65 %
Flour milling	ADM, ConAgra, Cargill, General Mills	61 %
Grain handling facilities	Cargill, Cenex Harvest States, ADM, General Mills	60 %
Pork packers	Smithfield, Tyson, ConAgra, Cargill	59 %
Broilers	Tyson, Gold Kist, Pilgrim’s Pride, ConAgra	50 %
Pork production	Smithfield, Premium Standard, Seaboard, Triumph	46 %
Turkeys	Hormel, ConAgra, Cargill, Pilgrim’s Pride	45 %

The companies maintain and continue to capture control in three ways: vertical and horizontal integration, and global expansion. These expansionary practices have made it increasingly difficult for small producers to compete or re-enter the industry.²⁶ In addition, the hold these companies have on the market means they have little accountability and significant sway.²⁷

Many of these corporations are acting aggressively to increase their market share. Cargill's recent behavior in India serves as an example of the tactics undertaken to gain market power. The company created import dependency by flooding the market with the inputs of industrial agriculture, such as fertilizers and pesticides. Once farmers were dependent on their products they started raising prices. While millions of people are starving to death, Cargill is making a killing: their profits more than doubled from 2006 to 2007, while farmers were paying 130 percent more for fertilizers.²⁸ In India, about 200,000 farmers have committed suicide in the last 12 years as direct result of their hopeless indebtedness to companies like Cargill for the chemical inputs they now need to produce food.²⁹

Additionally, genetically modified organisms (GMOs) have provided agribusiness with a new tool to capture more of the market. GMOs refer to foods that have had foreign material inserted into their DNA to produce desirable traits, such as a flounder gene inserted into a tomato, to give the tomato the flounder's resistance to cold. The concerns surrounding GMOs are vast. Specifically, the implications for small farmers and large corporations are significant because the advent of GMOs has fundamentally changed the policies regulating the food system. Since the late 1980s, patents have been granted on life forms.³⁰ Vandana Shiva – world-renowned physicist and environmental leader and thinker – argues that people cannot patent that which has “never been invented, never been created: life on this planet.”³¹ However, patents are issued on both GMO and non-GMO crops. Agribusinesses have been quick to snatch up these patents and are on their way to building a seed monopoly and gaining control over the food supply. Today, just ten corporations

hold 32 percent of the commercial-seed market, and 100 percent of the market for genetically engineered or transgenic seeds.³² As these corporations increasingly gain control over the world's seeds, it is ever more difficult for farmers not to be involved with these corporations.³³

In fact, these corporations are aggressively trying to keep farmers from being independent. The handful of corporations that dominates seed patents is patenting seeds that farmers have been using for centuries. Basmati rice, an ancient grain grown by Indian farmers for centuries, is now patented by Rice Tec, Inc. and the farmers who bred this variety must now purchase the seeds they developed from the patent-holder.³⁴ Were farmers to continue saving seeds, they would be committing intellectual property theft.

These corporations are also gradually taking over the fields of the farmers who do not grow their patented seeds. To date, Monsanto, a leading multinational, agricultural biotechnology corporation, has sued 1,500 farmers whose fields were contaminated with their patented GMO crops.³⁵ Seed contamination is common, given that seeds can fly from trucks or blow over from a neighboring farm. Under current legal precedent, a patent-holding company could theoretically plant seeds in a farmer's field and then claim ownership of the field.³⁶ Few of these lawsuits come to trial, because most farmers cannot afford to take on a corporation that is spending two million dollars each day on research and development.³⁷ Most farmers settled out of court after they have lost their livelihoods through no fault of their own.³⁸

These three changes in food production – The Green Revolution, the mechanization of agriculture and the consolidation of food production – have had profound effects on the food system. One of the most significant has been the breakdown of rural communities. Wendell Berry, an American poet, social critic and farmer, writes:

Few people whose testimony would have mattered have seen the connection between the “modernization” of agricultural techniques and the disintegration of the culture and the communities of farming – and the consequent disintegration of the structures of urban life.

What we have called agriculture progress has, in fact, involved the forcible displacement of millions of people.³⁹

In small, often family, farms the same people who own the farm also manage and operate it.

Industrial farming models segregate labor, meaning different groups own and operate the farm, while a third class does the actual labor. Food is “no longer raised, but manufactured, like steel or auto parts, in highly specialized operations – outdoor factories.”⁴⁰ Such a model has had traumatic affects on communities as a new class of low-wage jobs emerged, which often increases income inequality. Several studies have compared communities with family-operated farms to those with large, absentee-owned farms and found that the communities based around family farming are better off.⁴¹ As large, absentee-owned farms moved into a community increases in crime, teen pregnancy, high school dropout rates and family instability have been observed, as well as poorer schools, community services and infrastructure due to a smaller tax base.⁴² The combined forces of rural depopulation and community breakdown have left rural communities in poor condition.

The loss of farming communities - often referred to as “the backbone of rural America” – means the people who could see the big picture of the whole food system have been lost.⁴³

According to Thomas Pawlick, an investigative science journalist, in today’s corporate-owned agriculture farmers:

function as little more than financial serfs, taking their orders from the processing giants and reducing the art of farming to something akin to an outdoor paint-by-numbers hobby kit, whose products are judged not by consumers, but by corporate accountants cubicled in some distant city high-rise.⁴⁴

By dismantling the backbone of the agricultural system into disconnected components, the generalists who could envision whole systems – like the American family farmer once did – are now lost. In reducing labor to wageworker “specialists” focused on a narrowly defined task, each person serves just one small role in the whole system and no one has a sense of how things actually work anymore.⁴⁵

This shift to factory-style farming has not brought the most benefit to the many – as is often promised – but rather profits to those who need it least. Pawlick comments:

The only entities that seem to truly benefit from this system are a tiny group of already-wildly-rich corporations and their executives, and those, including our politicians, who have been co-opted by them. It is the product of their brains and their ideologies, not the result of any inexorable “invisible hand” of economic fate. It is unscientific, unnatural, and for ordinary citizens out to be unacceptable.⁴⁶

Such practices may make food prices seem low, but they are artificially so. Without regulation to safeguard everything involved in food production (people, the planet, animals) food is being produced for profit at the expense of all else. Sherri Brooks and Ann Clark Espuelas write in their book Real Food Revival (2005):

Sadly, such a philosophy means that the humane treatment of animals, care of the land on which they are raised, and even human health and welfare often fall by the wayside. All of which might be less contemptible if it were for the greater good [...] But it's not. It's all about the Benjamins, the bottom line of the handful of companies that designed a system that is bad for animals, the environment, our economy and our health.⁴⁷

The industrialization of agriculture is often touted as a system that has saved millions of people from starvation. Yet this system is not meeting this claims and at least one billion people around the world are still underfed on a regular basis.⁴⁸ The issue is still significant in the United States as well, where one in ten households are living with hunger or are at risk for hunger.⁴⁹ At the same time, there is a global surplus of food, making this an issue of distribution rather than food security.⁵⁰ Industrial agriculture has failed to meet the expectations from which it was conceived. The replacement of small-scale farms with corporate agribusiness is not feeding the world, and instead has dismantled rural America.

Compromised Well-Being

Not surprisingly, as farming has shifted from small-scale operations to corporate conglomerates, the priorities of food production have shifted as well. Taste and quality are no longer top priorities, having been replaced by characteristics that maximize profit. For food

producers, profit translates into yield (in pounds per acre), large size, firmness (to withstand transport), resistance to disease and temperature, and uniformity of appearance.⁵¹ Nutritional content, along with many of the more subtle flavors, have been lost, which has been compensated for by pumping foods full of salt, fat and artificial flavors to make them more palatable.⁵² Several decades ago, quality food products touted gastronomical superiority, while today quality ensures not that food will taste good, but rather that is hygienic and uniform.⁵³ The place for superior food in terms of taste and nutritional content has been lost in modern, mainstream food culture.

As priorities of food production have changed, the nutritional content of many foods has declined, a phenomenon that has been well-documented. Every year the United States Department of Agriculture (USDA) publishes a series of tables that measures the content (vitamins, minerals, protein and other important substances) of a variety of food items. Track a tomato over the last several decades and the changes are surprising. A fresh tomato today contains 31 percent less Vitamin A, 17 percent less Vitamin C, 62 percent less calcium, 11 percent less phosphorus, nine percent less calcium, eight percent less niacin and ten percent less iron than an average tomato in 1963.⁵⁴ While these vital nutrients are found less and less in tomatoes, two substances have dramatically increased: tomatoes today contain 65 percent more fat and 200 percent more sodium!⁵⁵

The tragic tale of the tomato is not unique. Not only are similar trends seen in many fruits and vegetables, but also meat, poultry and dairy. Today's chicken (dark meat) has lost 52 percent Vitamin A, 25 percent potassium, while it has gained 54 percent fat and eight percent sodium.⁵⁶ Furthermore, the USDA tables track only major nutrients, meaning many of the micronutrients that are vital to human health are not even accounted for. It is unlikely these nutrients have fared any better, if not worse.⁵⁷ To supplement these changes, many people have turned to vitamin pills. These pills are simply industrial versions of nutrients that industrial agriculture has taken out of

food. Often human bodies cannot absorb nutrients in this form and do much better when the nutrients are dispersed naturally throughout food.⁵⁸

Nutritional content is not all that has been lost over the past half century: variety and diversity have vanished as well. While there are over 5,500 varieties of tomatoes, the American market in both processed and fresh tomatoes is dominated by only 15 varieties.⁵⁹ Five types of tomatoes account for more than 80 percent of all Florida-grown tomatoes.⁶⁰ Only ten varieties account for more than 60 percent of the canned tomatoes that come out of California, the supplier of more than 85 percent of the nation's canned tomatoes.⁶¹ Of these ten, five are proprietary varieties, developed by major multinational food processing companies that now require their contract supplies to grow only these in-house varieties.⁶²

Diversity of the food available has declined as well. Because food production is now centered almost entirely around profit, farmers grow the same variety and try to maximize uniformity. This is uninteresting for not only the farmer, but the human palette as well, and is often less healthy.⁶³ Much of today's produce is bred for transport, meaning thick skins and tough flesh, traits that most consumers would agree are less palatable.⁶⁴ In the mid 19th century, 1,186 varieties of fruits and vegetables were grown in California; today California farms produce only 350 commercial crops.⁶⁵ Almost 96 percent of the commercial vegetable varieties available in 1906 are now extinct,⁶⁶ and as a result it is estimated that 75 percent of genetic diversity among agricultural crops has been lost.

Meanwhile, toxins and additives in food are on the rise. Heavy metals are not uncommon in food, particularly cadmium, lead and mercury.⁶⁷ All have serious health implications and continue to be present in foods. Foods are also polluted with pesticides, which have been linked to various cancers, infertility, hormone disruption, neurotoxicity, and most recently Parkinson's disease.⁶⁸ According to the EPA, 170 pesticides used in the United States today are possible, probably or

known human carcinogens.⁶⁹ Food additives and manufactured substances, such as trans fats, are compromising health as well. What is particularly disconcerting about the presence of these substances in food is that their impact has been little studied. While other countries are finding that these substances have serious implications for public health, “this continent’s largely corporate-research-grant-sponsored scientific establishment” is preventing genuine scientific understanding.⁷⁰

Food-borne illnesses are another cause for concern in the food system. Hazards in food cause approximately 76 million illnesses, 325,000 hospitalizations and 5,000 deaths in the United States each year.⁷¹ Beyond the obvious compromise of well being, the Economic Research Service estimates that this adds up to \$6.9 billion annually in medical costs, hospitalizations and lost work time that are covered by the American taxpayer.⁷² The beef industry is a prime example of how profit has compromised human health and safety. By combining meat from many sources, as is practiced by almost all large processors of hamburger, companies can cut costs by nearly 25 percent.⁷³ As a result, a single hamburger often contains meat of various grades from different parts of different cows from different slaughterhouses. Despite that products of this nature are particularly vulnerable to contamination, the USDA does not require specific safety procedures related to contamination and instead allows grinders to devise their own safety plans.⁷⁴

The resulting situation puts consumers at risk in order to keep profits for slaughterhouses and grinders high. Many large slaughterhouses will only sell to grinders who agree not to test their products for contaminants, such as E. coli, for fear that contaminant discovery will set off a recall of their products.⁷⁵ The food safety officer at American Food Service, which grinds one million pounds of hamburger each day, said they stopped testing because of pressure from slaughterhouses: “They would not sell to us. If I test and it’s positive, I put them in a regulatory situation. One, I have to tell the government, and two, the government will trace it back to them. So we don’t do that.”⁷⁶

Last year, workers at Greater Omaha brought forth a lawsuit because they were not given enough

time to clean contaminants off their knives and gear; the line of carcasses moved too quickly to accommodate even basic safety standards. Other workers at Cargill have revealed that metal detectors are used to pull out stray nails and metal hooks mixed in with the meat that could damage the grinders.⁷⁷

GMOs are another area of health concern. GMOs have not been tested enough to ensure their safety and their effects on human health are poorly understood. Some tests have indicated that GMOs could have serious implications for people with allergies to almost anything, since a gene from one organism is added to another people with allergies could potentially have fatal allergic reactions. For example, one study found that genes from a Brazil nut added to a soybean caused allergic reactions in the blood of people with allergies to nuts, meaning consumption would have been fatal were human subjects used.⁷⁸ With no labeling or tracking of genes used, it is impossible for consumers to know what is in their food. Concerns surrounding human health include toxicity, antibiotic resistance, cancer and immuno-suppression.⁷⁹ Furthermore, some GMOs are considered pesticides, not foods, because of the toxins they contain. As a result these “foods” are regulated by the Environmental Protection Agency (EPA), not the Food and Drug Administration (FDA). The EPA’s regulatory standards for pesticides are lower than those of the FDA’s, because when the regulations were established it was never anticipated that people would intentionally consume pesticides as food.⁸⁰

The combination of all these factors has resulted in food that is making people sick in many ways. Two thirds of American are overweight or obese, 25 percent have metabolic syndrome, 54 million people are pre-diabetic and the incidence of type 2 diabetes has risen 5 percent annually since 1990 (now at 7.7 percent of the population).⁸¹ At the same time, many people who are also overweight are also not getting the nutrients they need to maintain basic health.⁸² Heart disease, a once rare condition (the first heart attack in the United States was not reported until 1912), is now

that nation's biggest killing, taking the lives of over one million Americans each year.⁸³ These "diseases of civilization" – obesity, diabetes and heart disease – that were rare at the turn of the turn of the 20th century are now rampant.⁸⁴

The Western medical system has evolved to be reactive to these problems, while ignoring the true root of the problem: diet. Michael Pollan, journalist, author and food activist, sums this up well:

All of our uncertainties about nutrition should not obscure the plain fact that the chronic diseases that now kill most of us can be traced directly to the industrialization of our food: the rise of highly processed foods and refined grains; the use of chemicals to raise plants and animal in huge monocultures; the superabundance of cheap calories of sugar and fat produced by modern agriculture; and the narrowing of the biological diversity of the human diet to a tiny handful of staple crops, notably wheat, corn and soy. These changes have given us the Western diet that we take for granted: lots of processed foods and meat, lots of added fat and sugar, lots of *everything* – except vegetables, fruits, and whole grains.⁸⁵

Nina Planck, food writer and Real Food advocate, cannot help but come to a similar conclusion: "the diseases of industrialization are caused by the foods of industrialization."⁸⁶ Every year millions of dollars go towards curing cancer, perfecting surgical techniques and finding ways to make life with diabetes as manageable as possible. Modern medicine has evolved to bypass problems rather than focusing on the cause.⁸⁷

Numerous examples indicate that targeting the Western diet as one of the primary causes of many modern diseases can be quite fruitful. The most obvious case for this is the fact that humans are adapted to a variety of diets, as exemplified by various cultures with quite different diets, all of which have healthy populations.⁸⁸ Pollan writes, "the human animal is well adapted to a great many different diets. The Western diet, however, is not one of them."⁸⁹ One study found that when ten aborigines with diabetes left their modern lives and returned to traditional eating, they were no longer diabetic and their general health had dramatically improved within seven weeks.⁹⁰ Similar improvements have been achieved through corporate strategies. In response to rising health care costs, I.B.M. spent \$80 million from 2005 to 2007 on employee wellness programs, which included

diet-based changes. The company saved over \$190 million in fewer health care claims and higher productivity because employees were sick on the job less.⁹¹

How is it that with such poor rates of health and a plethora of success stories like the ones above that people are eating food that is literally killing them? One answer is that the American food industry spends more than \$32 billion annually in marketing to make people want the products that are profitable to them and detrimental to human health.⁹² Traditional, whole foods are limited in their profit potential, so food manufacturers are forced to constantly innovate if they want to see their profits grow. Planck writes, “things move fast. In the modern industry, novelty and technical wizardry are the rule. In the United States, ten thousand new processed foods come on the market each year, and it seems a new diet is always climbing the best sellers list.”⁹³

Another reason is that the institutions that are supposed to be keeping citizens safe from profit-driven corporations are run by the industry they are supposed to be regulating. The USDA, FDA and EPA are often caught protecting corporate profits and not the well being of the people. The parameters of these regulatory bodies are hazy and “their standards are often in direct conflict with what they are supposed to be protecting: the environment, our health, our food supply.”⁹⁴ The way the FDA has handled regulating food additives is a clear example of their failure to ensure the safety of their citizens. The FDA has a database of food additives, EAFUS (Everything Added to Food in the United States) that lists over 3,000 additives. Nearly 700 of these have “not yet been assigned for toxicology literature search” and the rest have not necessarily been reliably or thoroughly tested. Few if any of the additives have been tested to see how they interact with other additives. There is strong pressure from food companies to get these additives on the market and the FDA has caved to that pressure.⁹⁵

The food industry even shapes the dietary guidelines used by millions of Americans as a basis for their food choices. Pollan writes, “official government pronouncements about eating aren’t

necessarily much more reliable, not when the food industry influences federal nutrition guidelines.”⁹⁶ The dairy industry, for example, successfully lobbied the dietary guidelines advisory committee to increase the recommend daily amount of dairy from two to three servings. While there was no scientific backing for this decision that was not funded by the dairy industry itself, this meant the USDA was now recommending a 50 percent increase in consumption of the products produced by this already \$50 billion a year industry.⁹⁷

Recently, the foundation of how people eat has changed rapidly. People used to look to culture and their parents for guidance on food choices, but in today’s fast-paced food culture “most of us no longer eat what our mothers ate as children or, for that matter, what our mothers fed us as children.”⁹⁸ People now turn to professionals to figure out what to put in their mouths. The cultures and practices that guided people quite successfully on what to eat for millennium have been replaced with nutritional science. However, the whole basis of this type of science is problematic. According to Marion Nestle, nutrition expert, “The problem with nutrient-by-nutrient nutrition science is that it takes the nutrient out of the context of the food, the food out of the context of the diet, and the diet out of the context of the lifestyle.”⁹⁹ Pollan agrees: “Yet even the simplest food is a hopelessly complicated thing to analyze, a virtual wilderness of chemical compounds, many or which exist in intricate and dynamic relations to one another, and all of which together are in the process of changing from one state to another.”¹⁰⁰

The most basic and fundamental aspect of being human – what people eat to sustain themselves – has been separated from the practices that have guided people for as long as there have been people. Instead, the food industry has moved in with new ideas about what people want, which often coincide with what is profitable for them. Pollan comments: “so like a large gray cloud, a great Conspiracy of Scientific Complexity has gathered around the simplest question of nutrition – much to the advantage of everyone involved. Except perhaps the supposed beneficiary

of all this nutritional advice: us, and our health and happiness as eaters.”¹⁰¹ As a result, Americans face grocery stores stocked with nutritionally-compromised products and a sea of new Western diseases that are killing millions of people a year and compromising the well being of many more.

Devastated Planet

Soil is an incredible substance. While it may just look like black matter, it is in fact teeming with life that makes terrestrial existence on this planet possible. However, the methods employed by industrial agriculture have compromised this fertile matter. Moreover, the impacts of industrial agriculture are not limited to soil, but have been widespread across the processes and resources that support life on this planet. As farming has shifted from a small-scale, labor-intensive process to an energy- and input- intensive business, the environmental impacts have significantly increased: land has been degraded, water resources depleted, pollution is widespread, GMOs pose unknown risks, and climate change presents a threat like none ever before faced by humans.

Soil that has been farmed industrially is essentially dead, a lifeless substance that must be packed with chemicals in order to continue production. A Danish study found that one cubic meter of healthy soil contains approximately 50,000 insects and mites, 50,000 small earthworms, 12 million round worms, while just one gram contained 30,000 protozoa, 50,000 algae and 400,000 fungi and billions of individual bacteria.¹⁰² According to Shiva, “it is this amazing biodiversity that maintains and rejuvenates soil fertility.”¹⁰³ Nutrients and soil biota are lost as a direct result of many industrial-farming practices. The use of heavy machinery, excessive tillage, a lack of cover cropping, and poor windbreaks have all led to the loss of topsoil, the nutrient-rich top layer where most biological soil activity occurs. Manure used to replenish the nutrients in soil, as well as help retain topsoil, but crop production is so specialized today that it is completely disconnected from animal production, meaning these nutrients do not make it back into the soil.¹⁰⁴

The use of synthetic fertilizers to increase yields and compensate for unhealthy soil kills the organisms that normally sustain soil health. This creates an endless cycle in which more and more synthetic additives are needed to maintain productivity. In addition, fertilizers actually block capillaries, which are critical in supplying nutrients and water to plants.¹⁰⁵ The fertilizers used to compensate for lifeless soil also have serious environmental impacts. Scientists generally agree that there are at least 17 key nutrients required for normal plant growth and development; however conventional growers supply only three: nitrogen, phosphorus and potassium. Growers are satisfied with this combination because it yields large produce, but at the same time this is one of the major reasons for the declining nutritional quality of food.¹⁰⁶

Not surprisingly, as the nutrient content of most foods has fallen and the salinity has risen, these trends have been paralleled in the soils growing these foods. Soils farmed by industrial methods are becoming increasingly salty due to salinization. Excessive irrigation causes the water table to rise, along with soluble salts, which remain in the surface soil layers when the water evaporates.¹⁰⁷ To deal with salinization farmers often flush their fields with water, which is not only wasteful of this scarce resource but also ineffective, because many farms sit on an impermeable layer packed down by the use of heavy machinery. Sometimes farmers even resort to installing pipes underground to flush out the salt, which only sends the problem downstream to someone else.¹⁰⁸ This problem has manifested itself in the Salton Sea, the final destination for all the pipes that drain farms in the Imperial Valley. The water from over 38,000 miles of subsurface drainage pipes gathered from more than 500,000 irrigated acres drains into this area, which has essentially become the evaporation pond for water that has taken in more than 4 million tons of dissolved salt and tens of thousands of tons of fertilizer each year. The sea, now 25 percent saltier than the ocean, is nearing the livable limits for any species of fish.¹⁰⁹

Water resources around the world are strained by overuse. This problem is particularly prominent in California where over 80 percent of water goes to agriculture. Worldwide, the statistic is only slightly lower, at 70 percent.¹¹⁰ Agriculture is an inherently water-intensive activity, however industrial agriculture methods are especially water-intensive. Plants cultivated under industrial practices typically have smaller root systems than traditionally grown crops, because crops do not have to dig as deep when they are supplied synthetic nutrients and soil is more compacted due to heavy machinery use. As a result, fields must be heavily irrigated.¹¹¹

So much freshwater is being taken from rivers for irrigation that there is not enough flow to maintain the health of rivers and aquifers. Over 65 percent of irrigated acreage in the United States is supplied by the Ogallala Aquifer, which stretches from South Dakota across eight states down to northern Texas. Water levels are falling rapidly as water is pumped out at a much faster rate than it can be replenished.¹¹² As this resource is depleted, battles over water, an old phenomenon, will only worsen. Especially as cities grow and human demand for water increases, these conflicts will only escalate around the world. Current farming practices have been related to mining, rather than growing food because, “it exploits a finite resource, makes a profit from it, and when the resource is gone, leaves behind a landscape that can never be restored to what it once was.”¹¹³

Industrial agriculture has not only depleted water resources, but is also a significant source of pollution. As use of synthetic fertilizers has risen, so has water pollution. Half to two-thirds of the nitrogen used in agricultural fertilizers ends up in rivers and other ecosystems.¹¹⁴ The most dramatic effect is the dead zones, like the one in the Gulf of Mexico, that are caused by excessive nitrogen in the waters. These areas are starved of oxygen and marine life is compromised. There are 146 dead zones in the world, 43 of which occur in U.S. coastal waters.¹¹⁵ According to the EPA, agriculture is the largest non-point source of water pollution in North America.¹¹⁶ The U.S. Geological Survey tested over 8,000 water and fish samples from across the country for 76

pesticides and found that more than 90 percent of the samples contained at least one, or more often several, pesticides.¹¹⁷ Nearly half of the agricultural streams sampled had pesticides levels that exceeded Canadian guidelines for the protection of aquatic life (the report used Canadian guidelines, because there are no U.S. guidelines of this nature). Many pesticides that have not been used since the 1960s, such as DDT and Dieldrin, were found across the country and about half of the pesticides found are not regulated by the EPA.¹¹⁸ Industrial agriculture is depleting already scarce water resources at the same time that it is polluting these resources.

GMOs also present a serious threat to the environment. Over 200 million acres of farmland worldwide are now growing genetically engineered crops, such as corn, soybeans and rice.¹¹⁹ Like their effects on health, the impacts of GMOs on the environment have not been tested enough to prove their safety. Concerns arise over their effect on wildlife and gene pollution, and the fact that experts have no idea how they will interact with non-GMOs plants. Mutant, pesticide-resistant weeds have already emerged as a result of GMOs breeding with native weeds. The claim is often made that GMOs will reduce the need for pesticides, but unexpected occurrences like the one mentioned above have caused pesticide use to actually increase.¹²⁰

Industrial agriculture has made possible types of farming that have other negatives impacts on the environment. Most farming today involves a single crop planted over a large area, known as monoculture. Prior to industrial agriculture, farming of this nature was not possible, because crops were too vulnerable. However, irrigation, chemical fertilizers and pesticides, and mechanization have allowed farmers to grow the same crop year round. While this increases profits – because of specialization and the fact that farmers can grow the most profitable crops all the time – plants are far more susceptible to disease, weather and pests. Monoculture creates a vicious cycle in which more and more synthetic inputs are needed to keep fields productive.¹²¹

The system is so fragile that any slight change is utterly devastating. Pawlick comments:

With everything invested in hundreds upon hundreds of acres of a single uniform crop, a tiny shift in market price would mean disaster if the system were not supported by government intervention. Without the artificial protection of thousand of dollars worth of harsh chemical pesticides, the fragile monocultural crop would also be wiped out overnight by an invasion of insects attracted by unnaturally rich feast spread before them.¹²²

And this is essentially what happened in the 1970s when a fungus attacked maize in the United States. Production fell 15 percent nationwide and over 50 percent in the affected areas, which resulted in millions of lost dollars as well as farmer livelihood. The committee charged with the investigation concluded that genetic uniformity was the cause.¹²³

In traditional agricultural systems, farmers cultivated and saved the seeds of numerous crops, which meant they found crops that were well adapted to certain areas and conditions. In such diversity there is strength, because crops are less vulnerable and the loss of one crop was not as devastating to farmers. Modern plant breeding shuns diversity and instead focuses on maximum crop production for greatest profit. In a biodiverse system, plants with a variety of features may have been favored in different situations, such as a plant with a long stem because the stem could also be used for straw.¹²⁴ Today only the size of the product matters, making crops miniature factories focused only on the final output.

Aspects of all of these issues have combined to pose a threat like none humankind has ever faced before: climate change. People are becoming aware of the significance of industrial agriculture's contribution to climate change. Fossil fuels are used in nearly every aspect of modern agriculture. The food system is so heavily based on oil that each edible food calorie takes ten fossil fuel calories to produce.¹²⁵ Such high energy use is often justified by the fact that industrial agriculture has dramatically increased crop yields. While this is true, it does not portray an accurate picture. Since the Green Revolution (from 1945 to 1994) crop yields have increased threefold, but energy usage has increased fourfold.¹²⁶ As farmland deteriorates more energy is needed to produce the same amount of food; since 1994 energy usage has been rising without increases in crop yields.¹²⁷

It is not widely known that food production contributes to climate change more than any other source. While the experts disagree about the exact number, as much as 37 percent of greenhouse gases emitted into the atmosphere were a result of the food system.¹²⁸ Fossil fuels are used to manufacture fertilizer and pesticides, to power farm vehicles, for general electricity usage, and for irrigation pumping. Energy used at the farm accounts for only one-fifth of total energy used in the food system, with the rest going to transportation, processing and packing, and domestic consumption.¹²⁹ A recent Swedish study found that foods used in a typical breakfast had traveled a distance equal to the circumference of the Earth.¹³⁰

Government policies and subsidies have made fossil fuel-based agriculture possible. It is estimated that the oil and gas industry receives between \$15 and \$35 billion annually in subsidies from taxpayers. This number rises dramatically if the costs to protect U.S. oil interests in the Middle East are included, not to mention environmental and health costs. Shiva writes, “The increase in food-miles is related to fossil fuel and food subsidies, which allow food transported long distance to be cheaper than food produce locally.”¹³¹

Industrial agriculture’s dependence on fossil fuels is contributing to its own demise. Shiva argues, “fossil fuel-based industrial agriculture moves carbon from the soil to the atmosphere.”¹³² Rising global temperatures will change weather patterns, which will inevitably affect agriculture. Although the effects of climate change on agriculture vary by region, overall it is estimated that climate change will negatively affect agricultural yields.¹³³

When considering the environmental impacts of food, it is also important to look at the disproportionately large impacts of meat production, since the production of meat is far more energy intensive than the production of plant material. Producing meat requires large energy inputs into plant production for animal feed and currently two thirds of annual crop production in the United States is used as animal feed.¹³⁴ Only a fraction of the energy in an animal’s food is

translated into edible energy, all the rest goes to “bones or feathers or fur, to living and metabolizing as a steer or chicken.”¹³⁵

The amount of water necessary to produce meat is also astounding. Conservative estimates suggest that to produce just one pound of beef it takes 2,500 gallons of water.¹³⁶ Marc Reisner wrote in *Cadillac Desert*:

In California, the single biggest consumer of water is not Los Angeles. It’s not the oil and chemical or defense industries. Nor is it the fields of grapes and tomatoes. It’s irrigated pasture: grass grown in a near-desert climate for cows... The West’s water crisis – and many of its environmental problems as well – can be summed up, implausible as this may seem, in a single word: livestock.¹³⁷

Pollution from the industrial farming of animals is large as well. The quantity of waste produced by these animals is almost unimaginable: the excrement from the cows in the Chino, California basin could fill an area the size of a football field and as high as the Empire State Building each year.¹³⁸ Waste from animals is typically held in lagoons that hold millions of gallons of effluent, but these lagoons often overflow and leach pollutants and pharmaceuticals into surface and ground water. For every U.S. household, 20 tons of livestock manure is produced annually.¹³⁹ While there may be strict guidelines about proper disposal of human waste, such regulations are not in place for the livestock industry. In addition, for every burger produced in the United States, five times the weight of the burger is lost in topsoil.¹⁴⁰ While there is no question that the impact of industrial agriculture is large, the footprint of meat production is disproportionately destructive.

Animal Welfare

Animals raised for meat are treated as mere units of production, meaning health and welfare are sacrificed in order to maximize efficiency and profit. The majority of these animals are confined to factory farms, in which they are packed together, often indoors, without space to move. Many of these methods are a result of increased demand for animal products. World meat production has quadrupled in the last 50 years, meaning there are now nearly three livestock for

every human being.¹⁴¹ A typical American eats more than 200 pounds of meat per year, and consumption of meat continues to rise.¹⁴²

As meat demand has risen dramatically, pressure to streamline production and reduce costs have resulted in serious animal welfare compromises. Animals are cramped into tight spaces, often without access to the outdoors or even adequate room to move for their entire lives. Ninety-eight percent of chickens in the United States are raised in cages that are less than 48 square inches, or about half the size of this piece of paper.¹⁴³ Mutilation practices, such as debeaking of chickens or the removal of cow's tails, are standard. These tactics help "mechanize" animals, which helps them move through production with the least interference to maximize yields.¹⁴⁴ Animals are rushed to and through slaughter, meaning even basic standards are often not met. As a result, animals are frequently injured on the way to slaughter and are often still conscious as they are hung, bled and dismantled.¹⁴⁵

Animals are more likely to become sick because of the poor conditions they are raised in. They are fed diets to which they are not accustomed, and which can cause chronic sickness.¹⁴⁶ Cows are typically fed a diet of corn, which is too fatty for them and they are unable to digest. Animals are frequently fed byproducts of other animals, the parts that could not be sold and are instead ground up and used as feed. To compensate for these poor conditions animals are fed large amounts of antibiotics. Each year, 13 million pounds of antibiotics – or four times the amount used to treat sick people in the US – are fed to livestock to keep them healthy. These antibiotics, along with additional hormones, also help animals grow faster.¹⁴⁷ Breeding is also used to increase yields by favoring animal traits that increase yields. A cow today produces three times as much milk as a cow in 1950. Today's chickens are bred to grow at extraordinary rates and now reach the market in half the time than those in the 1940s. An unfortunate side effect of this is that bone growth often lags and the chickens are seriously deformed and unable to walk.¹⁴⁸

Glimpses into what really goes on in CAFOs are rare because the meat industry has managed to mostly hide its practices from the public.¹⁴⁹ Consumers are kept in the dark and even those who try to seek the source of their meat are kept out of these facilities. This means that consumers can continue to turn a blind eye to how the animals they are eating were really produced. These operations have reduced the production of meat to an efficient business with no regard for the fact that the commodities with which they are dealing are living creatures, and as a result basic well being and care have been disregarded.

The impact of industrial agriculture on the food system has been pervasive. Small farms that were once the foundation of rural America have been displaced for corporate conglomerates that employ methods that are both destructive to the environment and inhumane to the animals involved. Moreover, the food that is a product of this system is declining nutritionally and increasing in contaminants. While profit is the driving force for any business, it is the principle concern of the massive corporations manufacturing today's food, often at the expense of all else. Given the fact that modern, industrial methods of food production have such widespread, negative effects and have not met promises to feed the world, it is time to consider alternative methods.

The Revivalist Response: Real Food

Over the last 30 years, a growing movement of people have chosen to reject the fruits of industrialized agriculture and seek out something new. Combined with farmers seeking a more natural connection to the Earth, a movement for ethically- and responsibly-produced food has been growing since the 1980s.¹⁵⁰ Farmers markets are appearing everywhere, organic items are available in many supermarkets, and people are starting to ask where their food is coming from and how it was produced. Concern for these issues is mounting in the American population: a recent survey

found that over 80 percent of Americans are somewhat or very concerned about the decreasing number of farms in the United States.¹⁵¹

The results of this movement have been fruitful. Farmers markets, once a practically nonexistent phenomenon, are now present in almost every city and town across the country, with over 4,800 in total.¹⁵² Farmers markets not only connect consumers directly to farmers, but allow farmers to keep 80 to 90 percent of each dollar spent by consumers, compared to less than 10 percent in the industrialized system.¹⁵³ The organic food movement has exploded as well: there are now more than 13,000 organic farmers in the United States and sales of organic products top \$23 billion annually.¹⁵⁴ Organic food sales now account for over 2 percent of total sales, and have been growing over 20 percent annually since the 1990s.¹⁵⁵ These products significantly lessen environmental impacts, because pesticides and antibiotics are not used, and on average organic operations use 30% less energy.¹⁵⁶

While various responses to the problems of the food system have emerged, such as farmers markets and organic foods, the Real Food movement is the first response that incorporates remedies to all the problems into one broad solution. The Real Food response acknowledges that all of these problems are interconnected and that, to truly mend the food system, everything needs to be looked at holistically. The concept of Real Food is not one that can be defined by a label, or even that can have one definition; every definition is different. The following are a sampling of thoughts on ideal food, all of which describe what might be considered Real Food.

The Real Food Challenge

Real Food is food that is ethically produced, with fair treatment of workers, equitable relationships with farmers (locally and abroad), and humanely treated animals. It's food that is environmentally sustainable, grown without chemical pesticides, large-scale mono-cropping, or huge carbon footprints. Real Food is food that is healthy, tastes good, builds community, and has the potential to inspire broad-scale social change.¹⁵⁷

Sherri Brooks Vinton and Ann Clark Espuelas, The Real Food Revival

So what do I mean by Real Food? Well, here's what it's not: It's not a trend or a fad. Although you might find some signs that help point the way, Real Food can't be summed up in a label, sticker, or seal. [...] At its most basic, Real Food is

- Delicious
- Produced as locally as possible
- Sustainable
- Affordable
- Accessible

First of all, Real Food has real flavor. It is produced by people with a genuine interest in what they are doing and the products they are creating. [...] The second key to the pleasure of Real Food is that it reflects the region in which it was grown. A short distance from field to fork makes for a fresh and tasty meal. Every mile subtracts fragile flavor and adds costs – economic and environmental – to your dish.¹⁵⁸

Slow Food Movement

Slow Food is good, clean and fair food. We believe that the food we eat should taste good; that it should be produced in a clean way that does not harm the environment, animal welfare or our health; and that food producers should receive fair compensation for their work. We consider ourselves co-producers, not consumers, because by being informed about how our food is produced and actively supporting those who produce it, we become a part of and a partner in the production process.¹⁵⁹

Nina Planck, Real Food: What to Eat and Why

What is *Real Food*? My rough definition has two parts. First, Real Foods are *old*. These are foods we've been eating for a long time – in the case of meat, fish, and eggs, for millions of years. Some Real Foods, such as butter, are more recent. It's not absolutely clear when regular dairy farming began, but we've been eating butterfat for at least ten thousands years, perhaps as many as forty thousand. [...] Second, Real Foods are *traditional*. To me, *traditional* means 'the way we used to eat them.' That means different things for different ingredients: fruits and vegetables are best when they're local and seasonal; grains should be whole' fats and oils unrefined. From the farm to the factory to the kitchen, Real Food is produced and prepared the old-fashioned way – but not out of mere nostalgia. In each of these examples of Real Food, the traditional method farming, processing, preparing, and cooking *enhances* nutrition and flavor, while the industrial method diminishes both.¹⁶⁰

Michael Pollan, In Defense of Food

I propose some practical ways to separate, and defend, Real Food from the cascade of foodlike products that now surround and confound us, especially in the supermarket.¹⁶¹

- Don't eat anything your great grandmother wouldn't recognize as food.¹⁶²
- Avoid food products containing ingredients that are a) unfamiliar, b) unpronounceable, c) more than five in number, or that include d) high-fructose corn syrup.¹⁶³
- Avoid food products that make health claims.¹⁶⁴
- You are what what you eat eats too.¹⁶⁵
- Eat well-grown food from healthy soils.¹⁶⁶

Although these definitions vary, there is a common thread: Real Foods are those that people are adapted to eat, not the highly processed items that make up the diets of many people today. They are the foods that are produced in an ethical manner with regard to people, the planet and animals. Real Foods are those that value everyone and everything involved in production. There will never be a specific definition of Real Food; rather Real Food is a concept, an idea that needs to be understood and embraced. There will also likely never be a Real Food certification. Finding and eating Real Food is about taking the time to understand food and consider what it truly is.

Forty years ago, there were few alternatives to foods available in the modern supermarket. Today a revival is emerging. People are starting to care about where their food comes from, how it is was made and what the impacts are. These changes were not the product of the people in power – government or corporate – but rather the “movement percolated up from the grassroots, and it has become a groundswell as ordinary people inform themselves, organize locally and assert their own democratic values over those of the corporate structure.”¹⁶⁷ This study is an attempt to assess how Pomona College can join in this revival of the foods that sustained humans for millennium and are good to eat, as well as good for the environment and the people and animals involved in production.

Methodology

Bringing more food to Pomona's campus first requires tracking how much Real Food is already being used. As it turns out, tracking food is a dauntingly difficult task. Even as Real Food reemerges, few eaters in today's complex food system can take the time to understand what is in their food, where it came from, how it was produced and who made it. Even those with the best of intentions and strongest of wills are often put off by the impossibility of today's mainstream food climate. For those eating in a dining facility, the task is even more daunting as this information may be simply unavailable or unattainable without making it a full-time job. And make it a full-time job I did. For one month, I tracked all the food entering Pomona College's Frary Dining hall, with the intention of determining whether the food is Real. To accomplish this task I used the Real Food Calculator, developed by the Real Food Challenge.

The Calculator

The Real Food Calculator is a tool put together by the Real Food Challenge to evaluate institutional procurement, which I used to assess the food items used in Frary.* While having a calculator for Real Food may seem counter to the concept of Real Food, the intention of the calculator is not to be the final word on whether a food is Real or not, but rather provide a metric for doing a baseline assessment of food purchasing in institutional settings. It is designed to help students "get an inside look at dining service operations, to keep tabs on campus purchasing, and to make a quantitative goal for getting more Real Food on campus."¹⁶⁸ The calculator is in its early stages and Pomona College is one of some 13 schools piloting the metric.

The Real Food Challenge is a national student movement aimed at bringing more Real Food to campus-dining facilities. The organization functions as both a network and a campaign for

* For a copy of the calculator, please see the appendix.

students. The network provides students with support, training and resources that will assist them in growing the movement. The campaign is specifically targeted at bringing 20 percent Real Food to college and university campuses by 2020.¹⁶⁹ The initial idea for this effort emerged at the 2006 Food and Society Conference, sponsored by the W.K. Kellogg Foundation. The Foundation had set the goal of shifting the percent of good food in the system from two to ten percent. A youth delegation from the California Student Sustainability Coalition (CSSC) and The Food Project (TFP) realized the benefits of creating a similar goal to unite their work on campuses to change the food system. A year later at the same conference CSSC and TFP created a formal Steering Committee and Design Team that marked the true beginning of the Real Food Challenge. Since then the group has grown significantly, with 322 schools signing on to the campaign.¹⁷⁰

According to Kelsey Meagher and Hai Vo, two students from The University of California, Irvine who were some of the very first to pilot the calculator:

While many third-party certifications for food sustainability already exist (e.g. organic, fair trade, cage-free, etc.), none address the needs of all of the stakeholders in the food system; the Real Food Calculator is the first tool to incorporate many certifications in order to holistically evaluate a particular food system.¹⁷¹

The calculator organizes these certifications into four categories. These four attributes of Real Food are local/community-based, fair, ecologically sound, and humane. Local/community-based and fair refer to who produced the food, while ecologically sound and humane refer to how the food was produced. The calculator is divided into three categories:

- The green category describes food that meets the highest standards for Real Food and is generally verified by a third-party.
- Foods in the yellow category are still considered Real Food, but do not necessarily meet the highest standard and are not verified by a third party, and thus are open to more uncertainty.
- Foods in the red category do not meet the standards for Real Food. Many of these foods are conventionally produced, while others hold unsubstantiated and unverifiable claims. Foods that contain ingredients that raise health concerns also fall into this category.

The calculator relies on third-party certifications to evaluate each food for every attribute mentioned above. To be considered Real Food, a product must meet the standards of either the

yellow or green category in at least one attribute (local/community-based, fair, ecologically sound, humane). Products can meet the criteria for more than one category; for example a pineapple could meet the standards for both the ecologically sound and the fair attributes. Products that qualify for two or more Real Food attributes – such as the above-mentioned pineapple – are considered Real Food A, while products that only meet one attribute are considered Real Food B.

The ultimate goal of the calculator is to track procurement in terms of purchasing dollars directed towards Real Food. The calculator is intended for use over a specific period of time (such as one month), in which all purchases made by the dining facility are recorded. Methods have varied about which purchases to include, some schools have divided purchasing into different food categories and have looked at only the top 25 items in each category, while others have looked at all purchases. I chose to look at all purchases.

To fully understand the method by which the calculator evaluates foods, it is helpful to go through the standards that qualify a food for each attribute. To do so we will track two hypothetical food items: an eggplant and a chicken nugget.

Health Concerns

The first step in evaluating a piece of food is to verify that it does not contain any ingredients that raise health concerns. The calculator lists six ingredients that are considered harmful to human health and thus, food containing these ingredients can never be considered Real:

- **High Fructose Corn Syrup (HFCS)** is a sugar substitute, used because it cheap and extends the shelf life of products. HFCS is often blamed for the obesity epidemic because as consumption of HFCS has soared since the 1980s, so has obesity. HFCS has also been linked to many other health problems, particularly diabetes, as well as liver and kidney problems.¹⁷² In addition, HFCS is a highly processed food that poses environmental threats, an issue that Michael Pollan spoke out about. Although these claims are still hotly debated, HFCS poses enough of a risk that it is considered harmful to human health.¹⁷³
- **Hydrogenated Vegetable Oil/Trans Fats** refer to vegetable oils typically liquid at room temperature that have been pumped with hydrogen to make them solid, like animal fats, at room temperature.¹⁷⁴ Trans fats increase “bad” cholesterol (LDL) and decrease “good”

cholesterols (HDL), which leads to clogged arteries and increased heart problems. A Harvard study found that trans fats could be responsible for 30,000 deaths per year from heart disease.¹⁷⁵ While the FDA now requires that trans fats be listed on nutrition labels, products containing less than 0.5 grams of trans fats per serving do not have to list any trans fats and can make claims like “zero trans fats.” When dealing with a fat for which the recommend daily intake is less than 2 grams, policies like these make no sense.¹⁷⁶ For the purpose of these study, foods containing “partially (vegetable) hydrogenated oil,” “hydrogenated (vegetable) oil,” or “(vegetable) shortening” were eliminated, because all those ingredients contain trans fats.

- **Monosodium Glutamate (MSG)** is used to bring out flavor in many foods. However, it allows companies to reduce the amount of Real Food in their products, such as beef in beef soup. The initially controversy surrounding MSG started when a 1960s study revealed that large amounts of the compound fed to infant mice destroyed nerve cells in their brain.¹⁷⁷ Although the research on MSG is still incredibly inconsistent, many people complain that MSG gives them headaches and dizziness.¹⁷⁸ The labeling of MSG is poorly regulated and quite inconsistent.
- **Recombinant Bovine Growth Hormone (rBGH)/ Recombinant Bovine Somatotropin (rBST)** refers to a manufactured protein hormone used to increase a cow’s milk production. Using rBGH/rBST has lead to numerous animal problems, including deformed calves, hoof disease, open sores, and bovine death stemming from internal bleeding. In addition, one of the most significant issues is mastitis, a painful bacterial infection of the udders that causes inflammation, swelling, and puss and blood secretions into the milk. As a result, the dairy industry relies on more antibiotics to deal with outbreaks.¹⁷⁹
- **Sodium Nitrate** and **Sodium Nitrite** are added to meats to preserve their red color, as well as add a characteristic flavor. These additives can lead to the formation of potent, cancer-causing chemicals (nitrosamines), especially in fried bacon. Several studies have linked consumption to various cancers.¹⁸⁰

In addition to these ingredients, the group piloting the calculator at University of California,

Irvine added the following:

- **Modified Food Starch** is used as a thickening agent, emulsifier, or stabilizer in a wide range of food products. While studies are not conclusive, modified food starch has been linked to problems in the digestive track.¹⁸¹
- **Food Coloring** typically indicates a lack of Real Food content and generally indicates food of low nutritional value. Although affects vary, food coloring has been linked to allergic reactions and hyperactivity in sensitive children and concerns have been raised about links to cancer and sterility.¹⁸²
- **Artificial Sweeteners** (sucralose, aspartame, acesulfame-K, corn-based sweeteners, etc.) are used to replace sugar with chemical or natural compounds that provide sweetness without calories. Artificial sweeteners are controversial and have a troubling past. The sweeteners available today have not been sufficiently or reliably tested to ensure that they do not pose a risk to human health.¹⁸³
- **Sodium Benzoate** is used to prevent the growth of microorganisms in acidic foods. In sensitive individuals, the substance can cause hives, asthma, or other allergic reactions.

When combined with ascorbic acid (Vitamin C), benzene is formed, which causes leukemia and other chemicals.¹⁸⁴

- **Calcium Disodium EDTA** is used as a chelating agent (used to extend shelf life by removing traces of metal ions). The chemical has not been adequately tested, because the FDA safety assessment is based on a related chemical, not the chemical itself. Other studies have found that animal studies show broad systemic effects even at very low doses.¹⁸⁵
- **Autolyzed Yeast Extract, Sodium Caseinate, Maltodextrin, Hydrolyzed Lecithin,** and **“Natural Flavoring”** are food additives that often or always contain MSG. Because the FDA has not established regulations for identifying MSG in processed foods, MSG often goes unnoticed.¹⁸⁶

In my initial research of the above additives, I encountered several others additives that seemed equally, if not more harmful, than the ones listed above. The most reliable and comprehensive information I could find came from the Center for Science in the Public Interest (CSPI) guide to food additives. This list ranks food additives as “safe,” “cut back,” “caution,” “certain people should avoid,” and “avoid.” I decided to include additives in the “caution” and “avoid” categories in the list of ingredients that disqualify a food item. I also left open the possibility of encountering other additives that should be included. When I encountered an additive that I was not familiar with, I researched it and tried to come to a conclusion based on its potential harmfulness in regard to other additives included in the “Health Concerns” category of the calculator.

This method is not as consistent or verifiable as would be ideal, but was the best available means of assessing ingredients. There is a broad array of additives in food and a great variety of information sources available, which made it difficult to make an informed decision. In these cases, I did the best I could and often sought the advice of Bowen Close, an advisor for this project, for a second opinion. It is important to note, however, that this inconsistency may be relatively insignificant because those products that contain even somewhat controversial additives are unlikely to meet any of the other attributes of Real Food.

Below is the list of additives I found in foods and considered to be harmful enough to human health to include in the disqualification:

- **Butylated Hydroxyanisole (BHA)** is used to retard rancidity in fats, oils and oil-containing foods. While some studies deem it safe, others have found that it causes cancer in mice, rats and hamsters. However, it causes cancer in the forestomach, an organ humans do not have. Despite this, The U.S. Department of Health and Human Services considers BHA to be “reasonably anticipated to be a human carcinogen” because a chemical that causes cancer in three species might well be a human carcinogen.¹⁸⁷
- **Butylated Hydroxytoluene (BHT)** is used to retard rancidity in oils. Studies have been inconclusive in whether it causes cancer, but in some animal studies it has.¹⁸⁸
- **Propyl Gallate** is used to prevent spoilage of fats and oils and is often used in combination with BHA and BHT because of synergistic effects. While studies are not conclusive, there are strong suggestions that this preservative causes cancer.¹⁸⁹
- **Diacetyl** is one of many chemicals that gives butter its flavor. It is often added to butter-flavored products and is also used to extend the shelf life of products. While it is safe in low doses, such as those found in real butter, in higher doses it causes obstructive lung diseases.¹⁹⁰
- **Azodicarbonamide** is used in food as a flour-bleaching agent, but its primary use is in the production of foamed plastics. Azodicarbonamide is a respiratory sensitizer and may cause asthma. The chemical is banned in the European Union and Australia (not only from food but packaging as well), and can result in up to 15 years imprisonment and a fine of \$450,000 in Singapore.¹⁹¹

Assuming our eggplant and chicken nugget do not contain any of these additives (much more likely for the eggplant than the nugget), we would move on to evaluating each attribute. First, let us turn to local/community-based category.

Local/Community-Based

Within this attribute, the calculator makes a distinction between processed and unprocessed foods. For an unprocessed food, like the eggplant, to be considered local and community-based, it has to be grown or raised within 250 miles or the adjacent counties where it is eaten and meet at least one of the following qualifications:

- We have a direct purchasing relationship with the farmer or the distributor provides us with transparent and verifiable information about farm practices and location
- The farm is independently or cooperatively owned and operated within the region
- The farm is small-medium sized (which is not clearly defined)

As I tried to secure this information, I soon realized it would be nearly impossible to do so because our supplier could barely provide information about where our produce was grown much less whether it met any of those qualifications. Rather than count all unprocessed food as “unreal,” I decided to eliminate many of the qualifications and look simply at whether food was grown within 250 miles. While I feel strongly that the above categories are important, due to the time limitations of this project I could not obtain this information.

A processed food, like the nugget, is considered local and community-based in the green category if it is made by a locally owned business and over 50 percent of the ingredients are local (which is not clearly defined, but this study defines it as 50 percent local ingredients by cost). In order to meet the yellow standard, the food item can be made from distant ingredients but must still be made by a locally owned business.

I encountered some problems defining what was processed and what was not. Obviously, our eggplant is not, while the chicken nugget (assuming it has some type of breading) is. Items that fell into a gray area included beans, nuts, raisins and some meat, poultry and seafood products. In the end, I did not have to make this decision because the items did not meet the qualifications for Real Food no matter in which category they were considered. The only exception was some seafood that was caught off-shores and cut and packed by a local company. In this case, I counted the fish as processed, which meant it was Real.

Ecologically Sound

Next, let us take our eggplant and nugget through the ecologically sound category. This category does not make a distinction between processed and unprocessed foods. To meet the standard for this attribute, a food must carry one of the following third-party certifications:

Green category:

- **USDA Organic** indicates that a product meets the federal organic standards as determined by a USDA approved certifying agency. These standards require that foods cannot be grown using synthetic fertilizers, chemicals, or sewage sludge; cannot be genetically modified; and cannot be irradiated. Organic meat and poultry must be fed only organically grown feed (without any animal byproducts) and cannot be treated with hormones or antibiotics. In order to bear the USDA “Certified Organic” seal, a product must contain 95 to 100 percent organic ingredients.
- **Protected Harvest Certified** is a certification given by the non-profit organization, Protected Harvest. It certifies farmers for sustainable practices in nine management areas: field scouting, information sources, pest management decisions, field management decisions, weed management, insect management, disease management, soil and water quality, and storage management. Growers must stay below certain levels of toxicity and avoid the use of certain high-risk pesticides.
- **Marine Stewardship Council** is a label issued by a non-profit organization of the same name. The label is based on three principles: the condition of the fish stocks, the impact of the fishery on the marine environment, the fishery management systems.
- **Seafood Watch Guide “Best Choices” (not air-flown)** refers to products that meet the Monterey Aquarium’s highest standard. The recommendations are based on peer-reviewed research and government agency reports. The calculator additionally requires that these items not be air-flown.

Yellow category:

- **Rainforest Alliance Certified** indicates that the farm from which a product came conserved the rainforest, treated workers fairly, did not compromise soil and water quality, managed waste efficiently, dramatically reduced chemical use and has strong relations with the surround communities. The Rainforest Alliance certifies coffee, cocoa, chocolate, bananas, orange juice, guava, pineapple, passion fruit, plantains, macadamia nuts and other tropical products.
- **Food Alliance Certified** is a certification given to farmers/ranchers as well as food processors, manufacturers and distributors; there are different standards for each. A certified farmer or rancher provides safe and fair working conditions, ensures healthy and humane care for livestock, does not use hormones or nontherapeutic antibiotics, does not produce genetically modified crops or livestock, reduces pesticide use and toxicity, conserves soil and water resources, protects and enhances wildlife habitat and demonstrates continuous improvement. A certified food processor, manufacturer and/or distributor sources Food Alliance Certified ingredients, ensures quality control and food safety, does not use artificial flavors, colors or preservatives, provides safe and fair working conditions, reduces use of toxic and hazardous materials, conserves energy and water, manages solid waste responsibly, and demonstrates continuous improvement.
- **Seafood Watch Guide “Good Alternatives” (not air-flown)** are a step down from the “best choices.” They present an option, but there may be concerns with how these items were caught or farmed, or with the health of their habitat due to other human impacts.
- **Beyond Organic** refers to farms that exceed USDA organic standards. This claim is not verified by a third-party and has no standard definition. However, farms meeting this standard, should be able to achieve basic USDA organic certification.

- **Transitional Organic** refers to farms using organic methods that are in the three-year transitional period required for organic certification. This is not a certified claim and there is no guarantee that these farms will ultimately be certified organic.
- **Fair Trade Certified** ensures that farmers in developing nations receive a fair price for their product and have direct trade relations with buyers and access to credit. The standards also encourage sustainable farming practices, and discourage child labor and the use of certain pesticides. To bear the label, products must be grown by small-scale, democratically-organized producers. Fair Trade Certified products include coffee, hot chocolate, tea, candy, chocolate, sweeteners, fruit, rice and grains.

Humane

Only those foods containing animal products need to be considered in the humane category.

So our eggplant will have to sit this one out. To meet the standard, foods have to meet one of the following third-party certifications:

Green category:

- **Certified Humane** refers to animal products that were produced with the animal's welfare in mind. Standards include: allowing animals to engage in their natural behaviors, raising animals with sufficient space, shelter and gentle handling to limit stress, making sure they have ample fresh water and a healthy diet without added antibiotics or hormones. In addition, products must meet with all local standards as well as the American Meat Institute Standards.
- **Food Alliance Certified** (please see above)
- **Pasture-Raised** indicates that the animal was raised outdoors on a pasture and ate predominantly grasses and other naturally-occurring foods. There is no third-party verification of this claim.

Yellow Category:

- **AGA Grassfed** refers to products that meet the American Grassfed Association's standards. These require that animals live on pasture, consume a natural forage diet, and do not receive antibiotic or hormone treatments.
- **USDA Organic** animals are treated more humanely than their conventionally-produced counterparts, however there is room for improvement.
- **Free-Range** indicates that animals had access to the outdoors for an undetermined amount of time each day, although it does not guarantee the animal actually spent anytime outdoors. There is not third-party certification for these claims, although the USDA regulates this claim on poultry (not eggs).
- **Cage-Free (eggs)** means birds were raised without cages, although it does not guarantee that they had access to the outdoors. Birds may have been raised in large flocks in commercial confinement facilities with open floor plans. There is often no independent verification of this claim.

Fair

This category is intended to evaluate the conditions and treatment of the workers involved in producing the food. I started the study with the intention of including this category, but once I started evaluating the food I realized how difficult this attribute was to evaluate. After careful consideration and consultation, I decided not to include it. The main reason I made this decision was because the avenues I had to pursue to get information on labor were completely different than those for the rest of the study data. For example, I might talk to someone in the produce department of a company about where a tomato came from and how it was produced, but these people typically knew nothing about who harvested the food. Obviously, the conditions of laborers are an important part of the food system that should not be ignored, but I was not able to include this attribute in this study given my time constraints.

Transparency

The final element in the calculator is “Transparency Concerns.” For those foods that have no labels and food producers/distributors/processors are unable and/or unwilling to provide the desired information, they are not considered Real Food because of transparency issues. If this information is unattainable by consumers, then these products cannot be considered Real Food because there is no way for them to know what they are eating.

The Study Site

Pomona College is a four-year, private, residential, liberal-arts school located in Claremont, California, approximately 35 miles east of Los Angeles. Pomona is part of a five-college consortium that allows students access to the food services of all colleges. Pomona has three dining halls and each of the other colleges has one, for a total of seven dining halls on campus. Students can eat meals at any of the dining halls without restrictions. Pomona’s three dining halls – Frank,

Frery and Oldenborg – are each unique. Frank Dining Hall is located on south campus, and is frequented by mostly first-years and sophomores. Frank caters to predominantly Pomona students, because of its location, and is where most new and specialty items on this campus can be found (including local, sustainable, vegan and other products). Oldenborg Dining Hall is located in the language dorm, and only serves lunch. Frery Dining Hall is the largest dining hall and is located on north campus, a more central location which means that more non-Pomona students eat at this location. I choose Frery as the study site for this project because it is Pomona’s largest dining hall and has the smallest volume of specialty products- in some ways, the “worst case scenario” in terms of sustainable food options. Since the ultimate goal of the project is to get a baseline assessment of the food at Pomona, I decided to start at Frery.

Nearly all Pomona students are on the meal plan. Pomona takes pride in being a residential college and over 97 percent of students choose to live on campus. Students living on campus are required to be on the meal plan. Frery offers 21 meals per week. During the week breakfast, lunch and dinner are provided, while on the weekends there is continental breakfast, followed by brunch and dinner. Students can eat as much as they like and are allowed to take a small snack with them from the dining hall. Students also have the option to “take out,” meaning they can opt to bring food back to their rooms rather than eat in the dining hall. Students pay per meal and can choose between 12, 14, 16, or 19 meals per week. In addition, students choose between \$80, \$160, or \$240 dollars of flex, essentially money that can only be used at on campus-food facilities. Frery typically serves 210 people breakfast, 500 to 600 lunch and 600 to 1,000 dinner each day.

Pomona has contracted out Dining Services to Sodexo, which manages all three of the dining halls. Sodexo is an international food-and-facilities management corporation that serves 10 million people in 6,000 locations every day and in 2008 had revenue of \$7.7 billion.¹⁹² There are three Sodexo employees that work on Pomona’s campus: Dave Janosky (General Manager), Stein

Amland (District Executive Chef) and Amy McKaig, the head of catering (Sodexo also operates a catering company on campus). All other Dining Services employees are Pomona employees. Margie McKenna, the Assistant Director of Facilities and Campus Services, oversees Sodexo's on-campus operations.

Most of the food in the dining halls is sourced from Sysco, an international corporation that sells, markets, and distributes food products. In 2008, Sysco had record sales of \$37.5 billion, making the company the global leader in the foodservice industry.¹⁹³ The contracts between Sodexo and Sysco are complex, and through this study I have gathered that Sodexo has signed contracts that obligate them to buy a certain amount and certain items from Sysco and prevent them from buying elsewhere. According to General Manger, Dave Janoksy via email:

Sodexo contracts with Sysco because they are the largest provider of restaurant/institutional food services and they have worked out contracts based on Sodexo's volume. The reason for Sodexo's contract with Sysco is Sysco's ability to provide food that is safe and insured, a clean and safe working environment for their employees, a large scope of services to Sodexo and the volume of merchandise purchased by Sodexo. Savings because of our volume are passed down to our client/customers. The majority of large organizations, hospitals, colleges and universities have these types of contracts with Sysco or their competitors. This is a common practice.¹⁹⁴

Mr. Janosky estimates that Sysco and its subsidiaries currently provide over 80% of Pomona's food.

The Study

This study tracked all of the food purchases made by Frary during the month of October 2009. Initial investigation with Dining Services staff about frequency of orders led me to believe that one month would be long enough to get an accurate assessment of the variety of food items that are ordered for Frary. If the study were shorter, I would have missed items that are ordered less frequently. October was also an appropriate time period because the dining hall was open for every meal with the exception of one dinner, when there was a special event.

Figuring out the best method of tracking food items was an evolving process over the month. For two weeks before the official tracking period began I spent time in the dining hall familiarizing myself with how operations work. For instance, I learned that Sysco makes deliveries to Frary on Monday, Wednesday and Friday and gained a general sense of where most items are located in the kitchen and storage rooms. When I asked about other deliveries, I was repeatedly told that deliveries were only on these days. However, I knew this was not the case because I had seen food delivered at other times. It took me several weeks to communicate that I wanted to track *all* food not just the Sysco orders.

There is no centralized organization of purchasing in Frary, which made the process tricky. Deliveries come in throughout the day and invoices are stored in more than one place. Ultimately, all invoices end up at Frank Dining Hall, where the business office is located. I soon learned that the best way to assure I didn't miss anything was to stop by frequently, ask lots of questions, and dig through piles of papers in the office. I found out that, aside from Sysco, Frary also receives deliveries from Newport Meats, Swiss Dairy, Fresh Point, Bimbo Bakeries, Coke-a-Cola, Kikka (sushi), and Heartland Food Products. The first three companies on that list are all subsidiaries of Sysco. Although some deliverers come regularly on certain days, others are arbitrary and the timing of deliveries is never definite or consistent.

Before the study period started, I began compiling data on some of our most commonly ordered items, since I could be fairly sure we would get those again. This also served as practice, so things would run more smoothly once tracking actually started. October 1st was slow, with just two small orders, but the next day I processed one of the biggest orders I saw all month at 1,000 cases of food.

When gathering the data on food items, the first priority is to directly transcribe the item name, code, and cost from the paper invoice into an excel spreadsheet. A priority of equal

importance was to collect information on those food items that varied every order. For the most part, this included only the produce, which came from differing farms. Each order, I would write down all the information on the produce, or other boxes.

Throughout the month, I continued this process. I went to the dining hall every weekday. On Mondays, Wednesday and Fridays I would spend four to eight hours tracking food depending on the size of the order, while on Tuesdays and Thursday I spent one to three hours. On slow days or when time was permitting, I would gather information on all the other items, taking note of their ingredients, producer and/or distributor and any other information on the labeling that was seemed relevant to the project. Over the course of the month, I investigated over 500 different items that came into Frary. I compiled this information in two excel spreadsheets: one that tracked procurement and another for note taking on product information. Ultimately, I compiled all of this information in to a master-results sheet that totaled the procurement dollars for each item.

The Assessment

Getting information on the attributes of food items was probably the hardest part of the study process, because food producers are not set up to provide the necessary information. When calling a company, I was frequently transferred around a company from person to person until I eventually ended up back where I started. Many people openly admitted to never having thought about what I was asking. Some people got defensive and tried to feed me other information that was irrelevant to the questions I was asking. However, other people were genuinely interested and eager to help, and seemed to put real thought into answering the questions I was asking to the best of their abilities, which were clearly limited by the systems in which they were working.

The first step of the assessment was always to look at the ingredients, because many food items were disqualified from being Real Food because of their ingredients. Even this was not as

simple as it seemed, because some products did not have the ingredients clearly listed. This was especially common with meat products. While this may have indicated that these products contained only meat, I was skeptical that they did not contain additional additives and always investigated further. Other items contained so many additives that it was difficult to keep track of everything. Some items had different ingredients listed for different countries. For example, the box would have one set of ingredients “For US Market Only” and one “For Canadian Market Only.”

When I started investigating companies’ environmental and animal welfare practices, as well as where products were made/grown, there was an important distinction between items that are Sysco brand and those that are other companies’. For the Sysco brand items my only option was to get information on those items from Sysco directly. This was especially difficult because the company does not have a system that tracks individual items. Sysco is a distributor, so although we may receive food in their boxes they did not produce those items but rather only distributed them. To get the information I needed, I had to make calls to various Sysco representatives and try to obtain information about their products in general. For example, with all the produce that arrived in Sysco boxes, I contacted the produce department at Sysco with a list of all these items and they gave me a list of the general area where they items are grown at this time of the year (i.e. portabella mushrooms are generally from Monterey, CA during the month of October).

For items that came in non-Sysco boxes, I got in touch directly with the company listed on the box. My first step was to access information about that company on the internet. If they had a website, I would look for information on their location, environmental and animal welfare practices. For the most part, I could glean whether or not a company was local from its website. However, with produce I would often have to investigate further to find the growing location. If a company had no indication of any sustainability practices or any type of social responsibility policy, I would

assume their foods did not meet this attribute. However, if their website indicated practices that could meet one of the calculator's standards in this attribute I would seek more information. For animal products, I always inquired directly about their welfare practices, because these are rarely mentioned on a website, while sustainability practices, as far I as could tell, were always there.

For those companies that did not have a website or for those that required more information, I would call their main number. Some companies had only one phone number, while others had operators that would transfer me to someone who could answer my questions. Depending on what information I needed, I would say something along the lines of:

Hello, my name is Samantha and I'm from Pomona College. We're doing a study on the food that comes into our dining hall and we purchase some of your products. I'm hoping to talk to someone about where your products are made/grown, any environmental practices you may have and your animal welfare policies.

I often spoke to several people before I got to someone who could answer my questions. Quite frequently I was transferred to people's answering machines, where I would leave a message. If I did not hear back in the following days, I would follow up by leaving another message. If I left three messages and did not hear back, I considered this a transparency issue. Other products were not included due to transparency if I could not find out enough information on where a product was grown to determine if it met the local qualifications, or if there was no or not enough labeling for me to find the producer of the food.

I compiled all of this data into my master results spread sheet. First I would give each food a(n) ok / n (ok ingredients / not acceptable ingredients) to indicate whether the ingredients posed health risks. If the food passed the ingredients category, I would then indicate y / n / t (yes / no / transparency) for each Real Food attribute. Depending on these results, I would mark whether each food was a / b / n (Real Food A / Real Food B / Not Real Food).

Each food was also categorized by type. The calculator laid out ten categories (baked goods, meat, poultry, dairy, eggs, fish/seafood, coffee, tea, produce and staples-top 25). I choose

redesign the categories because they did not mesh well with the food items in Frary. For example, we get fewer than ten tea and coffee items, so having two categories did not make sense.

Their categories include only the top 25 staple items, whereas we get hundreds of items that could be considered staples. The categories I settled on were meat, poultry, dairy/eggs, produce, beverage, grocery, frozen, seafood and baked goods.

The total amount of Real Food purchased was tabulated using the master results spreadsheet. The total number of dollars spent on foods that qualified as real was calculated and then divided by the total amount of money spent on Real Food during the month. The distinction between Real Food A and Real Food B was calculated using the same methods. All other calculations done were based on dollars spent on food items; no other metric was used.

Results

Food Purchased by Category

Over \$150,000 worth of food purchases were examined during the study period. More than one fifth of purchasing was directed towards grocery items. Produce was the second largest category of purchases at 16 percent of the total, followed by the frozen, meat, poultry and dairy/egg categories which were all at slightly more than ten percent of the total. Beverages (seven percent), seafood (four percent) and baked goods (two percent) comprised the smallest categories.

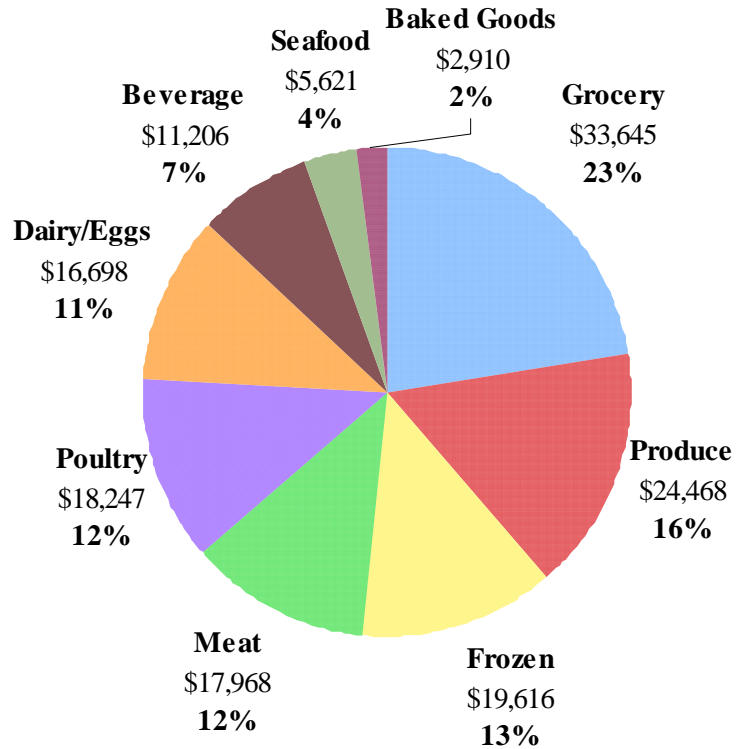


Figure 1. Dining budget by food category.

Real Food Purchases

A total of 8.9 percent of food purchased qualified as Real Food. The rest of the food items (91.9 percent) were considered conventional or “unreal.” Each food that qualified as Real Food met the standards for at least one of the three attributes (local, ecologically sound, or humane). Some food items qualified for two attributes, making them Real Food A. A total of 2.1 percent of all food purchases qualified as Real Food A, or 24 percent of those items considered Real Food.

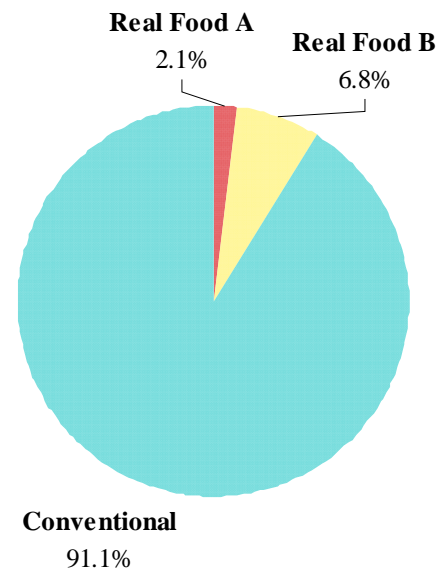


Figure 2. Percent Real Food by classification.

The remaining 6.8 percent of foods that qualified as Real are considered Real Food B and met standards in only one of the attributes.

Ingredient Concerns

Over one-third of the foods assessed during the study contained ingredients that are considered harmful to human health (based on the standards set by the calculator). The remaining items fell into one of three categories: acceptable ingredients, transparency, or no information. Less than

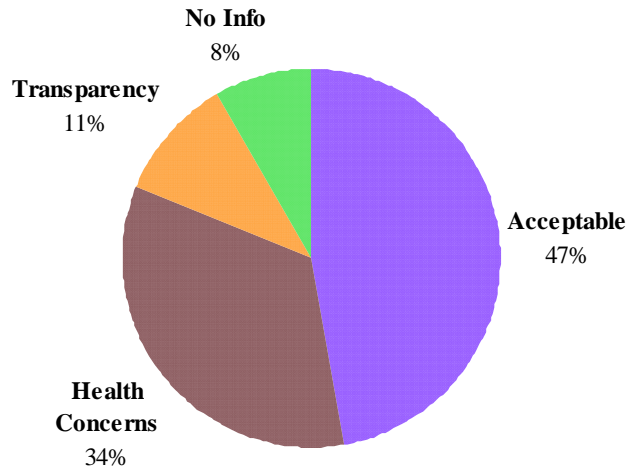


Figure 3. Ingredient concerns of all foods examined.

half of the foods assessed are known to have ingredients that are considered acceptable. With the remaining foods, there were either transparency issues or no information. Eleven percent of foods had transparency issues, meaning ingredient information was not available on the packaging and was otherwise unattainable. This study did not collect information on eight percent of foods, which indicates that these foods were deemed “unreal” because they did not meet any of the three attributes.

Real Food Purchases by Category

Of those foods that qualified as Real Food (either A or B), nearly half was produce. Over one-third was seafood, ten percent was beverage and four percent baked goods.

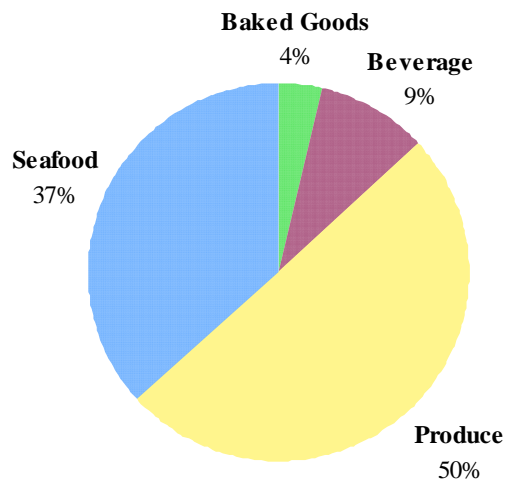


Figure 4. Real Foods by category.

Real Food Purchases by Attribute

Over two-thirds of the foods that qualified as Real Food were local. Slightly over half were ecologically sound. Nearly one quarter of Real Foods were both local and ecologically sound. No items examined during the studied qualified as humane. Six percent of total food purchases were considered local and almost five percent qualified as ecologically sound.

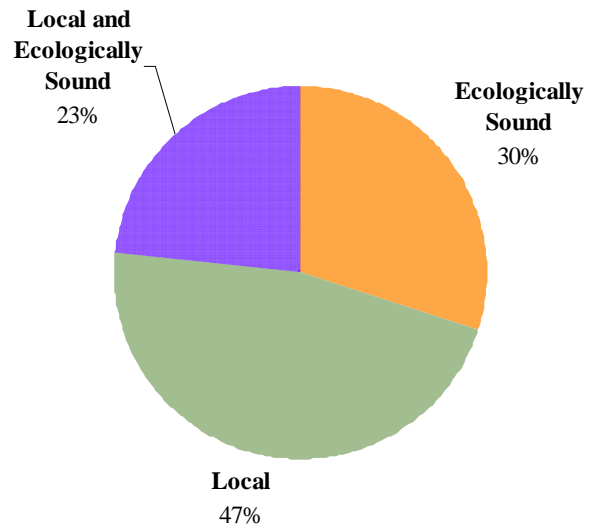


Figure 5. Attributes met by Real Foods.

Purchases by Category and Percent Real Food

The following chart indicates the total spent on each food category and the break down of Real Food by each category. None of the items in the dairy/eggs, frozen or poultry categories qualified as Real Food. Real Food purchases in the grocery and meat categories were so small that they appear insignificant in weighted totals.

Almost \$3,000 was spent on baked goods during the month, 16 percent of which qualified as Real Food. All of the items that qualified were Real Food B and met the local attribute. Nearly seven percent of the over \$11,000 spent on beverage items qualified as Real Food B, because it met the ecologically sound attribute. The produce category had the largest proportion of Real Food at over 27 percent of nearly \$24,500 in purchases. Sixteen percent of these purchases were local, while 11 percent were ecologically sound. Only two items qualified as ecologically sound in this category: bananas and spring mix. No items qualified as Real Food A.

Seafood was the only category with Real Food A items. Thirteen percent of the approximately \$5,000 in purchases in this category were conventional. Eighty-seven percent of

items purchased were local and 55 percent were ecologically sound. Fifty-five percent of purchases were both ecologically sound and local, meaning these purchases qualified as Real Food A.

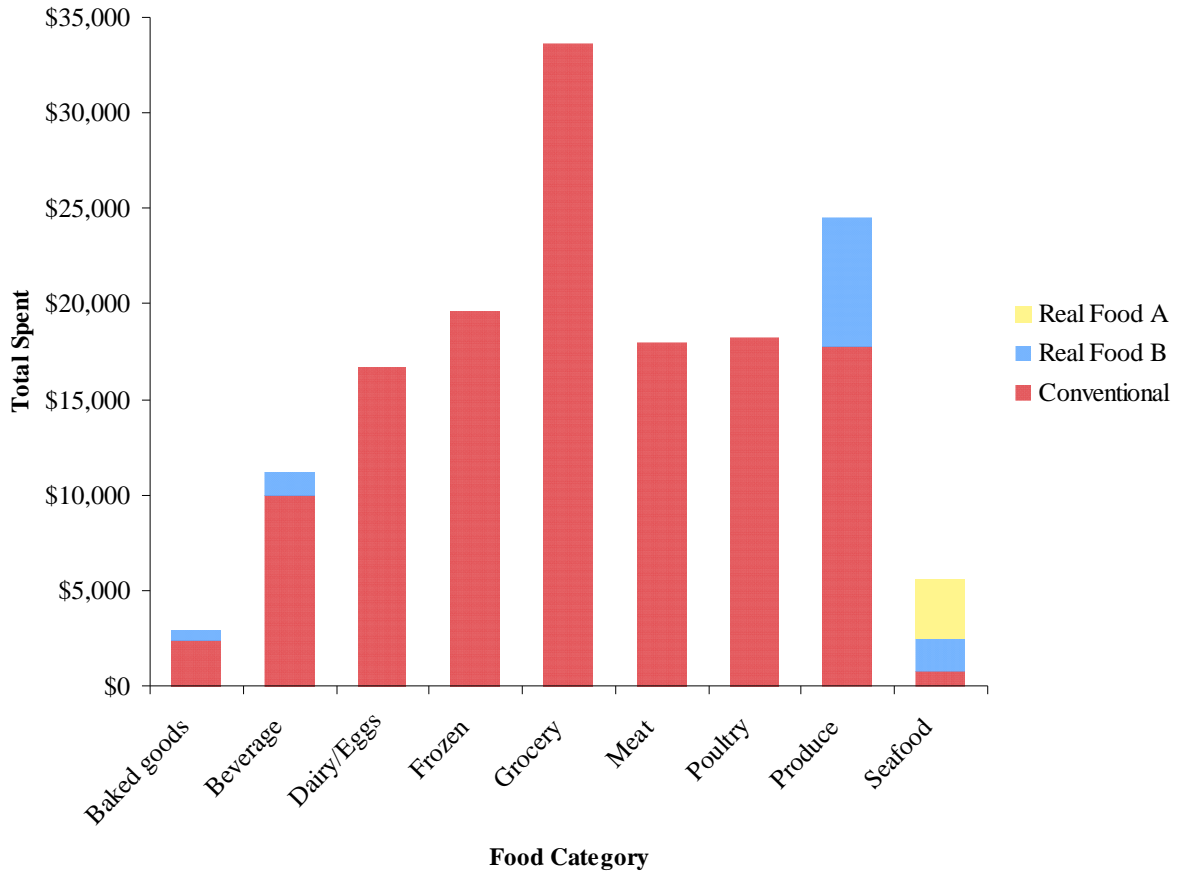


Figure 6. Total expenditure by category and Real Food classification.

For information on total purchasing numbers in each category and by attribute, please see the appendix

Discussion

A study of this nature has never been done at Pomona College, nor at many other colleges and the results are the first thorough assessment of Pomona's food purchases. The fact that Pomona directed just under nine percent of Frary's purchasing dollars to Real Food during the study period is rather astonishing, given the low standard set by the calculator. While these results are by no means a conclusive assessment, they do provide a strong indication of how Pomona is spending its money. As a college with a clear commitment to sustainability and the health of its students, Pomona is not applying this standard to the food served in its dining hall.¹⁹⁵

Because the calculator is still in the pilot phase, only one other school has completed the process. The University of California, Irvine study is comparable to this one, although there are two significant differences. UC Irvine looked at the top 25 purchases in eight categories, as opposed to all purchases. They also included the fair attribute, which this study did not. Overall the results of these two studies are very similar with UC Irvine finding 9.6 percent Real Food compared to Pomona's 8.9 percent.

The calculator's qualifications for a food to be considered Real set a low standard. A food item must meet only one of three attributes to be considered Real and yet less than one-tenth of the food assessed meets this minimal standard. This means that in just one month at one dining hall Pomona spent \$137,014 supporting an industry with negative impacts on people, animals and the environment.

One of the most significant findings of this study is the fact that over one-third of the food assessed (calculated by dollars spent) contains ingredients considered by the calculator to be harmful to human health. The foods served in the dining hall have limited labeling, usually at most nutrition facts; full ingredients are never listed. At Pomona, students are required to be on the meal

plan (unless they petition to do otherwise), meaning that without conducting a study of this nature students cannot get information on what they are required to put in their bodies on a daily basis.

It is not surprising, given Pomona's location in Southern California, that nearly half of the food that qualified as Real is produce. Southern California is an ideal location to source local produce, because these crops can be grown locally year-round. All of the produce that qualified as Real Food was local with two exceptions. The Rainforest Alliance Certified bananas and the organic spring mix, both large purchases, were not local, but instead ecologically sound.

A significant portion of seafood purchases were sourced sustainably, but this is in line with Sodexo's commitment to provide only Marine Stewardship Council (MSC) certified seafood by 2015.¹⁹⁶ Through Sysco, Pomona purchases most of its seafood primarily from one vendor. This vendor is in the process of certifying all products and their plant as MSC certified. Many of these products are not yet labeled that they carry these certifications, but are in fact certified.

The other categories with significant Real Food purchases were beverage and baked goods. Frary received two beverage items that qualified as Real Food – coffee and soymilk. The soymilk is organic, although it is not labeled as such, and the coffee is Rainforest Alliance Certified. All of the baked goods that qualified as local were bagels sourced from a local company through a large distributor.

While Pomona is making some significant purchases towards Real Food, it does not seem to be a concerted effort. In terms of produce, it is fortunate that so much of the produce is sourced locally, but there is no system in place to guarantee that this produce is actually sourced locally, or to even provide information on where produce came from. It does not seem too presumptuous, given the circumstances, to assume that the produce is sourced locally because this is the cheapest option for Sysco. The other items that meet the local certification seem to do so arbitrarily, as well.

With the exception of seafood, the only ecologically sound items are bananas, spring mix, soymilk and coffee. The soymilk and bananas lack information about their certifications on the product's packaging or on the invoices, and this information was only obtained through numerous calls to suppliers. The same is true of all but one of the certified seafood items. The spring mix is organic, but is the same cost as the non-organic equivalent. The coffee is the exception, which comes with prominently displayed certifications on the supply boxes, packaging and through a display in the dining hall.

This analysis is not intended to belittle the importance of those items that do meet the Real Food standard, but rather to better understand purchasing at Pomona. Data of this nature has never been available before and it is important to understand that this is a baseline assessment. The study considers only one dining hall, and it is likely that results would vary at Pomona's other dining locations, especially Frank Dining Hall, where several fruits and vegetables are ordered from specific local farms. However, Pomona does not have a Real Food purchasing policy in place and although some items qualify as Real Food and these purchases are important, at this time such purchases are relatively arbitrary.

Limitations

It is important to understand the limitations of the calculator and the study before making recommendations based on the results. The calculator is a tool intended to provide a standard measure by which to assess if food is real. While this obviously provides benefits by creating a clear means to evaluating food purchasing, there are inherent limitations. To function, the calculator must have a set of specific standards to determine whether a particular food is Real. As with any metric that aims to define a broad, subjective concept – like that of Real Food – standards are inevitably somewhat arbitrary and relatively non-scientific. The calculator does a sufficient job of

setting a standard, particularly when there is no objective way to evaluate whether a food is Real.

There will always be debate about the positive and negative attributes of food and whether it is Real or not, and the calculator fills the necessary role of standardizing that process.

It is also somewhat problematic that a food must only qualify in one attribute to be considered Real. The calculator standard is deliberately set fairly low because few foods meet even this minimum standard. However, this low standard can be deceptive. For example, a piece of meat might meet the qualifications for the local attribute but was produced in a context of atrocious animal cruelty and/or with serious environmental impacts. By the calculator's standard this piece of meat would be considered real. The fact that this food was locally sourced should be acknowledged, yet it is important not to let this overshadow other attributes of the food item. It is also important not to deem foods considered Real by the calculator as some overall good. Rather, foods considered Real are a first step in the right direction. The calculator is only an assessment tool, and will never be able to truly determine whether a food should be considered Real or not.

There are also limitations within the qualifications of each attribute. As previously mentioned, standards such as what is considered local are relatively arbitrary. It was also difficult to assess what companies should be considered local, because many small companies are owned by larger companies, or a large corporation might be locally situated, but have little invested in the local economy. As for certifications in the humane and ecologically sound attributes, few producers had heard of these certifications, with the exception of USDA organic and the seafood certifications. The health concerns section also posed difficulties, because the ingredients and additives included seem somewhat arbitrary in terms of risk level.

In regard to the execution of the study itself, there are two main problems. The first is information accuracy. Because there is no system to acquire the information necessary for the calculator, much of this process was unprecedented. The information needed was frequently not

something companies were accustomed to providing or had ever provided before. There was no clear avenue to pursue, so it was difficult to find the right person to talk to. As a result, there could be inaccuracies in the data if interviewed employees were unaware of relevant company practices or provided incorrect information. However, the fact that this information could not be obtained through logical means is inherently problematic, a notion captured in the transparency section of the calculator.

The second problem is closely related, and is a question of how accurate the information is as an overall assessment of the food purchased at Pomona. Three issues are paramount. The first is that the source of products is in constant flux. Produce is the largest problem, because it is grown in various areas depending on the time of year. This study tracked only food purchased in the month of October. With all other products, brands and producers occasionally fluctuate, though this seems to be less significant because these products tend to remain the same.

The second issue is that what the dining hall orders also changes. This study provides a reasonable assessment of the food that comes into the dining hall during a typical month, but not all products were purchased during the study period and products are occasionally replaced. The final issue is the question of how accurate this study is as an assessment of dining at Pomona. Purchases at each of the three dining halls are made by different people and they have different priorities, which would likely effect the results of a similar study at a different dining hall. It is likely that the percentage of Real Food would probably be higher at Frank, because Real Food characteristics are more common at Frank.

It is also important to recognize what the calculator cannot accomplish. The calculator looks at procurement, not at final food products nor does it offer an assessment of the nutritional quality of the food served in the dining hall. While it is likely that there is a positive correlation between the amount of Real Food and the nutritional quality of a dining establishment, the calculator does

not draw any conclusions in this area. The nutritional quality of the food is an important component to consider and should be considered along with the results of the calculator.

Other Schools' Programs

Many colleges and universities are increasing Real Food purchasing on their campuses and it is helpful to examine some of the leaders. First, it is important to make the distinction between general campus dining sustainability and the focus of this study. Many schools are becoming more sustainable by reducing waste, buying in bulk, reducing energy usage, and other non-food-related sustainability efforts. While these efforts are very important and there is certainly room for improvement in these areas at Pomona, the focus of this study is how food can be sourced more sustainably.

There are a handful of specific programs that numerous schools have taken on. Like Pomona, many schools purchase fair trade coffee. More than 50 schools are offering fair trade coffee.¹⁹⁷ Several of these schools, such as Brown University, Tufts University and Michigan State University, also offer other fair trade items, such as tea, chocolate, rice, bananas, dried fruit, and even ice cream.¹⁹⁸ Unlike Pomona, a number of schools, including Tufts University, the University of California, Berkeley and Plymouth State University (a Sodexo school), are also ordering organic and/or cage-free eggs.¹⁹⁹ Many schools also have trans-fats bans, some of which only include cooking oil, while others have certified all of their foods trans fat free.²⁰⁰ Some schools also have seafood purchasing policies, meaning they are committed to sourcing only sustainable seafood.²⁰¹ Columbia University serves only MSC certified seafood, while Colby (a Sodexo school) has an outright ban on numerous types of fish with large environmental impacts.²⁰²

Numerous schools are bringing more Real Food to campus by cutting out the middle person and growing food on campus.²⁰³ Schools around the country are maintaining on-campus farms that

supply the dining hall directly. These farms provide not only a learning space for students, but are also a local source for produce, most often organic. Many schools are also sourcing directly from local companies through farm-to-college programs, in which schools buy products directly from local farms. A large number of schools – including Bowdoin College, Brown University, Cornell University, Middlebury College, Oberlin College, Tufts University, the University of California, Berkeley, Williams College, and Yale University – have established programs of this nature for their produce supply, often with organic farms.²⁰⁴ Some other schools, like Middlebury College, St. Olaf College and Ithaca College, have established programs to get their dairy products directly from local farms.²⁰⁵ Other schools, including Williams, Ithaca, CSU-Monterey Bay, are buying local meat²⁰⁶ or have established relationships with local bakeries or other specialty vendors. Columbia University features items from a local bakery, along with locally grown and produced strawberry jam.²⁰⁷

Some schools are also offering more and more organic staples in their dining halls. Tufts University offers quite a selection of certified organic products, including whole-wheat pasta, legumes, whole grains, tofu, soymilk, granolas and peanut butter.²⁰⁸ Other schools, like the University of California, Berkeley and Davis, Williams College, and the University of Vermont, offer at least several certified organic products in their dining halls.²⁰⁹

There are a couple of schools that are clearly leaders in the shift towards more Real Food on college campuses. The Maharishi University of Management (MUM), a school of almost 1,300 students with nearly 300 undergraduates, is the first U.S. college to have entirely organic, vegetarian, and freshly prepared offerings every day.²¹⁰ The school contracts with Aladdin Food Management Services to provide 1,600 meals each day. A significant proportion of their produce comes from an on-campus, organic farm, while much of the rest of their produce is from local companies and farms. Everything is prepared from scratch, including all bread and baked goods.

Bob Hicks, the director of MUM Food Services comments: “We are doing this today, now. What the food service industry considers years away is already a reality here.”²¹¹

While MUM may be the first fully organic dining hall, The University of California, Berkeley is the first dining hall to have a certified organic section. UC Berkeley’s entire salad bar is certified organic, meaning that everything offered (including all produce and salad dressing) is organic and the kitchen the food is prepared in is certified organic. Chuck Davies, the assistant director and executive chef at UC Berkeley, who spearheaded the shift to organic, said: “At first we thought, ‘Okay, we can buy some organic things.’ But that just didn’t feel like it had enough integrity. There are standards that hold manufacturers and producers to a different level. My feeling was that people who serve the products should be held to standards as well.”²¹²

As for schools that, like Pomona, contract with Sodexo, The University of California, Davis, an agricultural school, is one of the leaders in improving food quality on campus. Davis has set the goal of buying 30 percent of its food locally by 2010.²¹³ Each month they feature a farmers market special, made only from local ingredients. The school also works with several local distributors to get local produce and other staples, like olive oil, organic rice, walnuts, vinegars and baked goods.

UC Davis also has a Culinary Support Center (CSC) and an on-campus bakery. The CSC helps the school meet goals of providing fresh, from-scratch foods, including soups, sauces, dressings, dips, salsa, seitan (a vegan meat alternative), salads, organic roasted tomato sauce and more. Harvest Bakery, their on-campus bakery, provides cupcakes, vegan cookies, breads and other desserts. Davis also buys many certified organic items, including cereal, tea, juice and milk. On Mondays, they participate in the Johns Hopkins Bloomberg School of Public Health’s Meatless Monday campaign, which strives to reduce meat consumption by 15 percent.²¹⁴

Many schools have also established infrastructure to support bringing more Real Food to campus. Numerous schools have created a sustainable dining student intern position to help the

dining hall staff move forward with sustainable initiatives. This intern helps generate new ideas to make dining more sustainable, as well as research food suppliers and other options. Many schools have also established working groups bring together key stakeholders for regular interaction monitoring.

Recommendations

Pomona College is entering a potentially exciting time for on-campus food policy. Pomona's Sustainability Integration Office and the President's Advisory Committee on Sustainability are currently preparing a ten-year Sustainability Action Plan, a comprehensive set of goals and recommended actions to reduce Pomona's environmental impacts. The food and agriculture section has not been written and will partially depend on the results of this study. In addition, Pomona's contract with Sodexo ends soon, which is a perfect opportunity for Pomona to renegotiate the terms of the contract to require more Real Food purchasing.

Pomona College is a large purchaser of foods and has the power to help improve the food system. Implementing a sustainable food-purchasing policy would have many benefits for Pomona, in addition to the larger impacts on the food system. Such a program would help improve the health and well being of students, and avoid the risks associated with lower quality foods. A policy of this nature would also help further the goals of Pomona, in particular those related to sustainability. Such efforts could result in positive publicity for Pomona and be an attraction for new students by demonstrating Pomona's deepest values. Pomona could also have positive influences on suppliers by improving informational flow and relationships, as well as helping to establish better practices. In addition, Pomona would be supporting suppliers with similar goals to its own.

Pomona has publicly stated its commitment to being a leader in sustainability. While Pomona is moving forward with this goal in many regards, it is lagging behind in the area of sustainable food. It is time for Pomona to move towards creating a strong purchasing policy that will help it become a leader in sustainable food. This is a challenge Pomona should and must address. As an institution with a strong commitment to the health and well being of its students, Pomona is failing to provide its students with healthy food produced in a healthy manner. After all, we are what we eat!

While there are several approaches to bringing more Real Food to campus, creating a purchasing policy is probably the best option for Pomona. A sustainable food-purchasing policy would write requirements into both the Sustainability Action Plan and the schools' contract with Sodexo, creating accountability for involved parties. Without a specific plan/contact any progress is temporary and lacks the backing necessary to ensure improvements are continued. Building this policy into the framework, helps move from isolated projects to an institutional structure for understanding and making change towards a more sustainable food system.

Obviously, a policy of this nature would be the product of input and discussion with all involved stakeholders. However, the following is a preliminary plan and recommendations based on this study. Ideally, this plan will act as the starting point for Pomona's sustainable food purchasing policy.

The first goal is to establish a vision for dining and food purchasing at Pomona. This statement sets an ideal situation for dining at Pomona and is a long-term goal. I would recommend the following:

Pomona College aspires to serve food on campus that is healthy, fresh and delicious, and that is produced in a just and sustainable manner. Food should be produced in a way that is fair to farmers, that supports the (ideally local) communities from which it comes, that cares for the environment and that treats animals humanely. The food climate at the College should be one in which food is not simply the fuel that energizes students, but also creates an environment of

awareness and fosters an understanding about where food came from, who made it, how this was achieved and the implications of the food choices consumers made every day.

To move towards this ideal vision, Pomona should create a Real Food Working Group.

This group would include the following parties:

- Dave Janosky, General Manager of Dining Services
- Hector Castillo, Frary Unit Manager
- Ruben Chavez, Frank Unit Manager
- Stein Amland, District Executive Chef
- Bowen Close, Director of Sustainability Integration Office
- Margie McKenna, Assistant Director of Campus Services
- Professors with food and agriculture-related knowledge, such as Rick Hazlett, Char Miller and Heather Williams
- Student representatives with a proved interest in and dedication to food issues

Initially, the group would meet weekly to establish a plan of action and move forward with early initiatives. Once the working structure of the group is more established, meetings could shift to biweekly.

The next step would be to establish a working definition of Real Food. This definition would determine the mean by which to evaluate efforts. The definition is as follows:

Prerequisites:

- All foods considered Real are free from harmful additives (as determined by the Real Food Calculator), and do not contain excessive or unnecessary additives.
- Child labor, indentured servitude, slave labor and confinement/battery cages were not used in the production of Real Food items.
- Verifiable information about ingredients, producers and certifications is available.

To be considered Real Food, a food item must meet at least one of the following qualifications:

- Local
 - Produce: grown within 150 miles of campus and did not travel more than 175 miles, ideally from a independently owned and operated farm of small-medium scale
 - All other foods: processed/prepared locally by a small-medium scale, regionally-owned company (within 150 miles of campus), ideally with as many local ingredients as possible
- (Domestic) Fair Trade Certified
- Rainforest Alliance Certified
- Food Alliance Certified
- USDA Certified Organic
- AGA Grassfed

- Pasture Raised
- 100% Grassfed
- Certified Humane Raised and Handled
- Cage-free
- Protected Harvest Certified
- Marine Stewardship Council Certified
- Seafood Watch Guide “Best Choices” or “Good Alternatives”
- Farm/business is a cooperative or has profit sharing with all employees
- Farm/business is independently owned and operated, and is small-medium sized (with revenues less than \$500,000 annually)
- Other practices or certifications as determined by the Sustainability Integration Office or The Real Food Working Group

While requiring that foods meet only one of the certifications may seem like a low standard, it is important to remember that, like the calculator, the standard is intentionally set low as a starting point. As progress is made, the definition will evolve to require a higher standard.

To successfully bring more Real Food to campus, it is critical that Pomona establish a tracking system used to evaluate the flow of food to campus. No tracking system is currently in place, which is why this study was necessary. While it is unlikely that a study of this magnitude can be repeated on a regular basis, changes could be made in the dining hall that would facilitate easier information collection. It would be immensely helpful – not only for the goals of this study, but Pomona in general – for Dining Services to establish a purchasing tracking system. Ideally, this would be an electronic database of all dining-related food purchases made by Pomona.

It is also crucial that Pomona renegotiate terms with Sodexo and/or Sysco and other suppliers. Currently, food suppliers provide little to no information on the foods purchased. Ideally, suppliers would be required to provide frequent reports on Pomona’s purchasing. Pomona should pressure these companies to provide more detailed information about purchased products, specifically their ingredients, where they were produced, who produced them, and any certifications held.

I would recommend assuming that all foods are not Real unless proven otherwise. If new purchasing standards are written into the Sustainability Action Plan and Pomona's next contract with Sodexo, the burden of proof would then fall on Dining Services and Sodexo to prove that food is Real. Sodexo and Dining Services would be required to show that foods meet the agreed-upon standards. Were a better food purchasing tracking program also in place, a percentage of Real Food could be generated by these means, which would be a much simpler process than the methods used to conduct the initial assessment of this study. However, it is important that this system maintain accountability and transparency, and be easily verifiable.

Based on the findings of this study, the following set of goals is recommended. These goals are broken into three categories. The first is short-term goals, those that are either "low-hanging fruit" or are in the areas of most dire need of change. These should be initiated and carried out now. The second set is longer-term goals intended as a suggestion for the Sustainability Action Plan and Pomona's contract with Sodexo. These goals are based on a ten-year timeframe, because that is the structure of the Sustainability Action Plan. The final set of goals is a set of specific standards to be met within the next ten years. The goals are as follows:

Short-Term Changes

- Create a working group (outlined above) to guide and oversee Real Food efforts.
- Implement a complete trans fat ban (including all products with partially-hydrogenated oils and vegetable shortening) and begin replacing these products immediately.
- Identify a group of the most dangerous food additives and implement a ban on these additives. Begin replacing these items immediately.
- Explore alternative suppliers, such as Fresh Point, Grower's Collaborative, and Farm Fresh to You, among others.
- Explore changes that could be made in certain "target" items, such 100 percent cage-free and/or organic eggs or fair-trade sugar, chocolate, etc. These changes should be implemented immediately.

Long-Term Initiatives (10-Year Plan)

- Compile a list of all additives in the dining-hall foods and evaluate the safety of these additives. Phase out all controversial and non-necessary additives.
- Create a sustainable dining position, either a student position or ideally, a full- or part-time position.

- Consider potential of working with Pomona's Organic Farm. Possibilities could include increasing production to supply the dining hall, hiring a full-time position to turn the farm into a production farm, or creating several student work positions to support this goal.
- Increase local/organic staples, explore suppliers.
- Source only sustainable seafood.
- Increase on-site production.

Goals (by 2020)

- 30% Real Food, with at least 15% by 2015
- 10% to meet Real Food A standards
- 60% local produce, increasing at least 3% each year

These standards are based on the goals of other schools as well as the Real Food Challenge, which has set the national goal of 20 percent Real Food by 2020. The University of California has a similar commitment of 20 percent sustainable food purchasing by 2020 for all schools.²¹⁵ Since Pomona is committed to being a leader in sustainability, it needs to lead by example and set goals that are progressive but at the same time achievable.

Obviously, no set of goals can encompass all the possibilities and avenues that should be pursued. The most important part of the plan will be to have innovators working to bring more Real Food to campus. These goals are intended to serve as a benchmark to ensure that Pomona is moving forward within a reasonable timeframe. It is also important that Pomona stay connected to the sentiments of Real Food and not meet standards by purchasing foods only foods that meet only one particular attribute, such as 30 percent local food. Rather it is better to purchase foods that meet a variety of attributes, such as ten percent local, five percent humane, ten percent ecologically sound and five percent fair.

Building a better on-campus dining system will be difficult. Since Real Foods tend to be more expensive, cost will be a serious obstacle, especially in current financial times. However, Pomona can consider cost-cutting strategies – such as switching to non-name-brand items, like cereal and soda or more on-site production of baked goods and other items – that would make

available money that could be used to purchase more Real Food. At the same time, Pomona will need to consider student preferences as changes are made. It is especially important for Pomona to have appealing food, because students can choose to eat in the other college's dining halls if they are not satisfied. Despite these obstacles, the potential benefits of bring more Real Food to campus are vast. Not only would students be healthier, but Pomona would be setting a new standard in sustainability, social justice, and animal welfare. Pomona cannot continue to ignore the impacts of its food purchases without compromising its commitment to being a leader in liberal-arts education.

Conclusion

As I started to find out what was really in the food at Pomona, I encountered an unexpected situation. Once I knew more about many of the foods, I started changing my eating practices. No more garbanzo beans, because of a questionable additive. More spring mix, because it is organic. My friends, aware of the study I was doing, picked up on these little changes and started asking me more about the food they were eating. At first I would answer honestly, telling them about plastic additives in our bread and meats packed with cancer-causing chemicals. Pretty soon most of my friends said they did not want to know anymore. And I often wished I did not know what was in the food, because it became impossible to find things I felt good about eating. It was not long before I realized I would never be able to eat a diet of all Real Food at Frary. But for a while I tried to eat only those foods that did not contain ingredients harmful to human health. I got very hungry. I had to lower my standard ever further to avoiding just the most risky foods. Every day I eat foods that contain substances I do not want in body and that compromise my moral beliefs.

Pomona College can and should do better. Students should not have to turn a blind eye to what is in their food or move off of campus to cook for themselves. I should not have to hide the results of my study from friends so that they can keep eating without stress. Eating should be a pleasurable act, not just in terms of taste but there should be a pride about that with which we nourish our bodies. Wendell Berry famously said in his essay *The Pleasures of Eating*:

Eating is an agricultural act. Eating ends the annual drama of the food economy that begins with planting and birth. Most eaters, however, are no longer aware that this is true. They think of food as an agricultural product, perhaps, but they do not think of themselves as participants in agriculture. They think of themselves as 'consumers.' If they think beyond that, they recognize that they are passive consumers.²¹⁶

The community at Pomona College has never passively accepted that which is fed to us, but rather questioned, engaged and ultimately improved the situation with which we are presented. Pomona

should embrace the challenge before us and create a new food system in which everyone and everything is respected and cared for. Pomona has the power to shape a new food culture on campus and beyond and now is the time to begin. Let's face it Pomona, it's time to get Real!

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Appendix

Dollars Spent on Food by Category and Attribute

Food Category		Total	Local	Ecologically Sound	Humane	Conventional (as % of Total)
<i>Baked Goods</i>	purchase in \$	\$2,910.30	\$470.56			\$2,439.74
	as % of category		16.2%			83.8%
<i>Meat</i>	purchase in \$	\$17,968.28	\$24.30			\$17,943.98
	as % of category		0.1%			99.9%
<i>Poultry</i>	purchase in \$	\$18,247.34				\$18,247.34
	as % of category					100.0%
<i>Dairy/Eggs</i>	purchase in \$	\$16,698.45				\$16,698.45
	as % of category					100.0%
<i>Beverage</i>	purchase in \$	\$11,205.82		\$1,264.60		\$9,941.22
	as % of category			11.3%		88.7%
<i>Grocery</i>	purchase in \$	\$33,644.86	\$40.03			\$33,604.83
	as % of category		0.1%			99.9%
<i>Frozen</i>	purchase in \$	\$19,615.59				\$19,615.59
	as % of category					100.0%
<i>Seafood</i>	purchase in \$	\$5,621.09	\$4,880.90	\$3,107.14		\$740.19
	as % of category		86.8%	55.3%		13.2%
<i>Produce</i>	purchase in \$	\$24,468.11	\$3,927.98	\$2,757.73		\$17,782.40
	as % of category		16.1%	11.3%		72.7%

TOTAL	purchase in \$	\$150,379.85	\$9,343.77	\$7,129.47		\$137,013.75
	as % of Total		6.2%	4.7%		91.1%

Total Dollars Spent on Real Food A, B and Conventional Food by Category

Real Food?	Baked goods	Beverage	Dairy/Eggs	Frozen	Grocery	Meat	Poultry	Produce	Seafood	Total
A								\$0	\$3,107	\$3,107
B	\$471	\$737			\$40	\$24		\$6,686	\$1,234	\$9,192
Conv.	\$2,440	\$10,469	\$16,698	\$19,616	\$33,605	\$17,944	\$18,247	\$17,782	\$1,280	\$138,081
Total	\$2,910	\$11,206	\$16,698	\$19,616	\$33,645	\$17,968	\$18,247	\$24,468	\$5,621	\$150,380

Percent of Total Dollars Spent on Real Food A, B and Conventional Food by Category

Real Food?	Baked goods	Beverage	Dairy/Eggs	Frozen	Grocery	Meat	Poultry	Produce	Seafood	Grand Total
A									55.3%	2.1%
B	16.2%	6.6%			0.1%	0.1%		27.3%	21.9%	6.1%
No	83.8%	93.4%	100.0%	100.0%	99.9%	99.9%	100.0%	72.7%	22.8%	91.8%

The Real Food Calculator

	Local & Community-Based	Fair	Ecologically Sound	Humane
<p>Green Light <i>A clear fit</i></p> <p>YES</p>	<p>Unprocessed Foods -Grown/Raised within 250 miles or the adjacent counties and at least one of the following: a) You have a direct purchasing relationship with the farmer or your distributor provides you with transparent and verifiable information about farm practices and location b) or, Farm is independently or cooperatively owned and operated within the region c) or, Small-medium scale farm (size varies by crop-define by revenue or size?)</p> <p>Processed Foods -Over 50% local ingredients processed by a locally-owned business</p>	<p>-Fair trade direct purchasing</p> <p>-Domestic Fair Trade Cert. (Agricultural Justice Project) -Fair Trade Cert. *</p>	<p>-USDA Organic -Protected Harvest Cert. -Marine Stewardship Council -Biodynamic Cert -Seafood Watch Guide "Best Choices" (not air-flown)*</p>	<p>-Certified Humane -Food Alliance Cert. * -Pasture-Raised</p>
<p>Yellow Light <i>Use caution</i></p> <p>YES</p>	<p>Unprocessed Foods -Grown within 250 miles and at least one of the following: -(a), (b) or (c) in the Green Light category (see above)</p> <p>Processed Foods</p>	<p>-Food Alliance Cert. * -Rainforest Alliance Cert. * -Business/farm operates as a cooperative and/or has a profit sharing policy for all employees</p>	<p>-Rainforest Alliance Cert. * -Food Alliance Cert. * -Seafood Watch Guide "Good Alternatives" (not air flown) -Beyond Organic -Transitional Organic -Salmon Safe -Fair Trade Cert. *</p>	<p>-AGA Grassfed -USDA Organic/Free-Range/ Cage-Free (eggs) -Humanely Raised -100% Grassfed</p>
	<p>-Distant ingredients processed by a locally-owned business e.g. locally baked goods, locally roasted coffee, etc</p>	<p>-Business/farm has a social responsibility policy that includes for all workers: -Union or prevailing wages -Transportation and/or Housing Support -Health care benefits</p>	<p>-Coffee: Shade-Grown, <i>Bird Friendly</i></p>	
<p>Red Light <i>Good Start, but not enough</i></p> <p>NO</p>			<p>-Raised without Antibiotics -No Antibiotics Administered</p>	<p>-USDA Grassfed -USDA Organic (meat) -Raised Without Antibiotics -No Antibiotics Administered -Vegetarian Diet -Hormone Free -rBGH-free/ -rBST-free</p>
<p>Red Light <i>Claim does not necessarily have substance</i></p> <p>NO</p>			<p>-Natural -GM Free/GMO Free (needs 3rd party certification)</p>	<p>-Natural/ Fresh -No Antibiotics (eggs) -Hormone Free (eggs)</p>
<p>Red Light <i>No way</i></p> <p>NO</p>	<p>-Grown more than 250 miles away -Traveled more than 250 miles away during distribution</p>	<p>-Child labor -Indentured servitude -Slave labor</p>	<p>-Seafood Watch Guide "Avoid" -Confinement/Battery Cages</p>	<p>-Confinement/ Battery cages -Grassfed/Grain-finished</p>
<p>Health Concerns If any of these ingredients are present, the food item does not count in any category.</p>	<p>high fructose corn syrup, hydrogenated vegetable oil, MSG, rGBH/rBST, sodium nitrate, sodium nitrite, trans-fats modified corn starch, food coloring, artificial sweeteners (sucralose, corn-based sweeteners), sodium benzoate, acesulfame potassium, calcium disodium EDTA (MSG), autolyzed yeast extract, sodium caseinate, maltodextrin, hydrolyzed lecithin, "natural flavoring"</p>			
<p>*Transparency Concerns</p>	<p>Food items have no labels and/or food producers/distributors/processors are unable and/or unwilling to provide desired information.</p>			

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