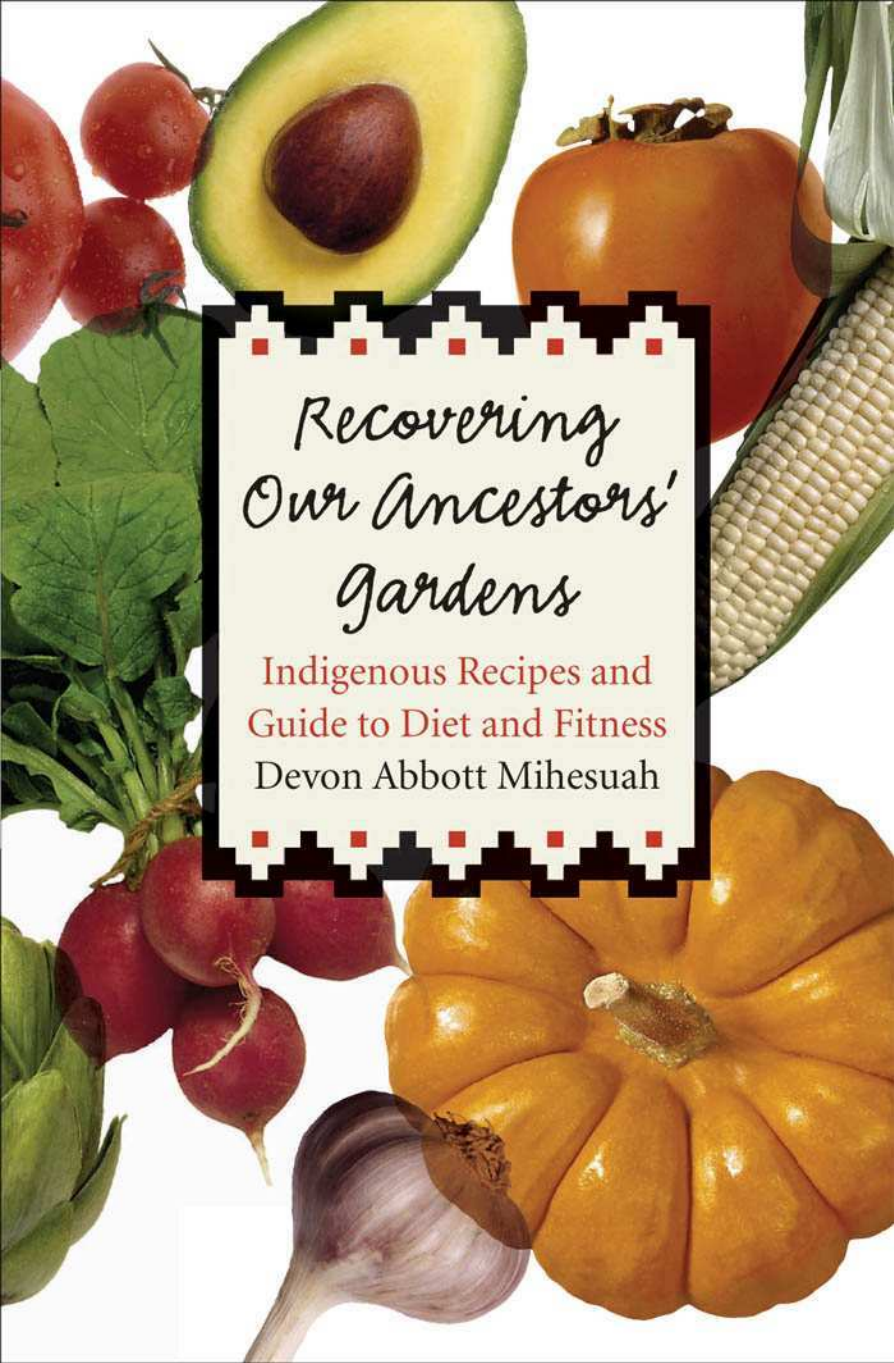
Recovering
Our Ancestors'
Gardens
Indigenous Recipes and
Guide to Diet and Fitness
Devon Abbott Mihesuah

# Recovering Our Ancestors' Gardens

At Table

# Recovering Our Ancestors' Gardens

## Indigenous Recipes and Guide to Diet and Fitness

Devon Abbott Mihesuah

*University of Nebraska Press & Lincoln & London*

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Library of Congress
Cataloging-in-Publication Data

Mihesuah, Devon A. (Devon Abbott),
1957–
Recovering our ancestors' gardens:
indigenous recipes and guide to diet
and fitness / Devon Abbott Mihesuah.
p. cm.
Includes bibliographical references
and index.
ISBN-13: 978-0-8032-3253-2 (cloth : alk.
paper) ISBN-10: 0-8032-3253-5 (cloth :
alk. paper)
1. Indian cookery. 2. Indians of North
America—Food. I. Title.

TX715.M6364 2005
641.59'297—dc22 2005012823

Set in Minion by Kim Essman.
Designed by A. Shahan.
Printed by Thomson-Shore, Inc.

***Disclaimer:***
***Some images in the original version of this book are not available for inclusion in the eBook.***

*To my beautiful daughter, Ariana Taryn*
*cook, gardener, athlete, and*
*enchantress extraordinaire*

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Thanks to Wallace Coffee, Jeff Corntassel, Joely De La Torre, Matt DeSpain, Mary Jo Tippeconnic Fox, Daniel Heath Justice, Andrea Hunter, Jill Koelling, Susan Miller, Gary Nabhan, Pamela Jean Owens, Richard Quartaroli, Robert Redsteer, Richard Stoekel, Barbara Valvo, Jess Vogelsang, Taryn Abbott Wilson, Waziyatawin Angela Wilson, Michael Yellow Bird, and Brad Young.

# Recovering Our Ancestors' Gardens

# Introduction

Poor health resulting from lifestyle choice is a serious problem for many Americans, including Indigenous peoples. Heart disease, obesity, diabetes, cancer, high blood pressure, and alcoholism rage across tribal nations and have struck both the young and old. Fatty, greasy, salty, and sugary foods pervade our marketplaces, schools, and homes. Restaurants serve portions of processed foods that are more than an adult should eat at one sitting, while television and video games have replaced sports and other outdoor activities. Deceptive and manipulative commercials paid for by the food industry have brainwashed consumers into thinking that processed foods are nutritious and, as a result, we flock to fast-food restaurants, buy unhealthy products, and are now facing the consequences. All Americans face the potential for developing bad lifestyle habits, but it is particularly distressing to see that Natives across the Americas have lost touch with their healthy, traditional methods of cultivating, preparing, and preserving foods, in addition to the consistent activity that kept them physically and mentally fit.

Despite all the publicity and discussions about diets, many Indigenous people (like many other Americans) have not been particularly interested in improving their diets and activity levels. Even though we are pelted with information that tells us about the dangers of processed, salty, and fatty foods, many Americans continue to eat badly even though they are becoming ill from their unhealthy lifestyles. Sadly, it usually is not until a person is diagnosed with diabetes, heart disease, high blood pressure, or lung cancer that he or she begins to consider what they are eating, drinking, and smoking, and how much they sit around.

There is hope. By educating ourselves about nutrition and making informed decisions, most health problems can be prevented. As *Time Magazine*, October 20, 2003, reports: "90% of diabetes and 80% of heart

disease cases can be directly attributed to unhealthy eating and lifestyle habits."[1] Many of us are paying attention.

Not all Indigenous people fall prey to the seductive ads of McDonald's playgrounds that lure children—and therefore their parents—into the store. Many of us ignore the television ads showing how cool one can look while eating chocolate shaped like potato chips or the ads telling us that we too can ride skateboards like maniacs while drinking sugar and caffeine-laden soft drinks. We immediately recycle the newspaper coupons for macaroni and cheese and rich desserts. We drive past Long John Silver's, Burger King, Wendy's, and Del Taco without a glance—even if our children whine and demand that we stop. We exercise daily or as close to it as we can get. If we do falter in our quest to eat healthy, unprocessed foods, it is in small amounts and not very often.

Right now, Indigenous people are planting, cultivating, and preserving foods. Many Natives are involved with the Native Seeds/SEARCH project, a nonprofit organization dedicated to finding and preserving seeds used for food, dyes, and fiber. The Center for Sustainable Environments at Northern Arizona University (led by Gary Paul Nabhan, noted environmentalist-conservationist who started the Ironwood Alliance and initiated the Traditional Native American Farmers' Association) is involved in a number of projects and collaborative initiatives that focus on increasing food security and agricultural sustainability on the Colorado Plateau.[2] In Chinle, Navajo youth who are members of the Damon-Bahe Boxing Club box at a gym built by the Cal Bahe family in an effort to help young people avoid drinking, smoking, and gangs and to gain self-respect.[3] The Nez Perce, Umatilla, Warm Springs, and Yakima tribes are attempting to rebuild salmon, lamprey, and sturgeon populations above Bonneville Dam through the Columbia River Anadromous Fish Restoration Plan. The Nez Perce are restoring camas bulbs.[4] Through the Inter-Tribal Basin Cooperative, dozens of tribes have purchased and raised thousands of bison. Winona LaDuke founded the White Earth Land Recovery Project with healthy food initiatives such as Native Harvest and Mino-Miijim.[5] Dream of Wild Health, in Farmington, Minnesota, is a garden cultivated with recovered seeds traditionally used by Native Americans in order to educate and inspire

Natives about nutrition, pollination, and traditional gardening methods. The Penobscot Indian Nation, along with the State of Maine and the U.S. Department of the Interior are attempting to restore Native sea-run fish (Atlantic salmon, sturgeon, shad, bass, herring, etc). Mike and Karen Guilfoyle, a Montana couple, gather mushrooms, can vegetables, and cultivate their gardens in Idaho and Montana. Waziyatawin Angela Wilson retains her grandmother's corn and cooks exceptional wild rice that is harvested by her tribe in Minnesota. The list of examples of Indigenous people across the Americas continuing to cultivate traditional, unprocessed foods, attempting to restore the ones that have fallen from use or have disappeared, and who take small steps to eat and exercise as their ancestors did, is extensive.

Although a Cherokee friend joked about this project that, "As an Indian I do my duty and eat as much chocolate as I can" (because cacao is indigenous to the New World), this is not exactly the kind of helpful advice that we should emulate. Nevertheless, all this productive activity begs the question: If so many people are trying to eat traditionally, then how is it that, according to the Native American Diabetes Initiative (at http://www.nativeheritage.net/), in some tribes, Type II diabetes has stricken half the tribal members? Why are so many Natives obese and suffering from heart disease, high blood pressure, and other serious health problems directly related to an unhealthy lifestyle? How can we become healthy and take back our pride and self-esteem? This book attempts to answer those questions.

Chapter 1, "The State of Indigenous Health," is a discussion of the distressing problems we have created for ourselves by eating an abundance of fat, salt, grease, and sugar (and too much of everything else bad for us) and traces what happened after Natives adopted processed foods. While initial contact benefited many Natives (notably from the addition of cattle, sheep, goats, chickens, peaches, and other fruits and vegetables), it did not take long before we began to overeat and to prepare food with too much grease, salt, and sugar. Wheat may have added a new form of bread to the table, but many Natives overindulge in that "empty" food, fried bread, and others suffer from celiac disease, a serious problem stemming from the inability to digest gluten or wheat. Until Europeans brought cattle and goats from the Old World, Natives did not drink milk.

Many Natives are lactose intolerant (unable to process milk products) and yet they are falsely told by the dairy industry that the only way to acquire calcium is to ingest milk products. And as we have seen from statistics about diabetes, they eat too much sugar.

Chapters 2 and 3, "Traditional Diets" and "Traditional Activity," are brief overviews of traditional diets and activities, including what some tribes ate, how they prepared their food, and how their lives revolved around hunting, gathering, cultivating, and preserving. Chapter 4, "How Did We Arrive at This Unhealthy Situation?" explores evidence that shows us our ancestors were physically strong, and while some did suffer from diseases, these diseases were not self-induced, that is, they did not die from gluttony, arteriosclerosis, or other problems associated with overindulgence. This chapter also discusses the findings of Weston A. Price, a dentist who traveled the world in the 1930s studying cultures that ate no processed foods, and remained physically fit and cavity-free until the "nonprimitive" diet of the outside world worsened their health. The chapter then traces what happened through the centuries to make Natives so sick and explores the main factors—both realities and excuses—that keep Natives from regaining their health.

Chapter 5, "What Are We Ingesting?" serves as a wake-up call for those who have not paid attention to their diets. Using a sample diet chart as an example, readers can track their own diets for one week in order to assess how many nutrients they consume and to understand what they are lacking. Chapter 6, "How Many Calories Do We Need?" allows readers to calculate how many calories they actually must have to function in comparison to how many they are taking in. In order to lose weight, we must burn more calories than we take in. In order to maintain weight, the amount of calories we take in and burn up must be the same. What we must keep in mind, however, is that all the food we eat must be nutritious, not just "low calorie."

Chapter 7, "Changing What We Eat," offers suggestions for changing our diets so that we consume nutritious foods only in the amounts we need. All the suggestions revolve around this ideology: Unprocessed foods, that is, fresh fruits and vegetables, whole grains, lean meats, and low-fat dairy products, provide the foundation for a healthy body. It may not be possible to give up all the tasty, processed foods that surround us,

but if we primarily eat vitamin-, mineral-, and fiber-rich foods, then a few processed "treats" every now and then will not do as much damage as if we consume fatty, sweet, and salty foods and drinks every day.

Chapter 8, "Recovering Our Fitness," offers ideas for changing a sedentary lifestyle, ranging from a simple walking program to lifting weights to physical programs such as hiking and exploring the natural world around us while we exercise. Chapter 9, "Planting Gardens," offers step-by-step instructions for planting either large gardens in our yards or as part of a neighborhood project; and for those who have limited or poor land to garden, there are also suggestions for container gardens.

Chapter 10, "Become a Fitness Activist," is a call for action so that our families, communities, and tribes can stay healthy and fit. There are many things we consumers can do to ensure that we get quality foods, from protesting misleading and deceptive ads to campaigning for nutrition education in our schools. We can demand nutritious meals for our children who eat at school cafeterias, educate others about diet and exercise, and become environmental activists to make certain our water, air, and soil are clean and free of pollutants. We can also become aggressive in our efforts to eat right and to exercise; in so doing, we become role models for others. None of these suggestions is bizarre or difficult. They are common-sense ideas that are intended to inspire readers to consider new ways of doing things. A complete return to hunting, gathering, and cultivating in the same ways our ancestors did is not usually practical, but all of us can manage to do some of it. Cooking just one traditional dish regularly, sowing a garden, and beginning an exercise program are greatly empowering.

The second part of this book, "Indigenous Recipes," is a compilation of dishes from my family and from many of my colleagues that initially featured only New World foods; but I also realized that some of my favorites (namely garlic, beets, asparagus, Brussels sprouts, broccoli, okra, carrots, and sweet peas) are Old World foods. In addition, some of my taste require these European, Asian, and African spices and foods in modern recipes, so I have included recipes that feature Old World foods and spices, but these ingredients are optional and are marked with an asterisk (*). The "cookbook" section of this book is brief, mainly because there already are countless cookbooks on the shelves, dealing

with specific places (Italian, Mediterranean, Santa Fe, Chinese), specific types of foods (breads, salads, garlic, vegetables, meats), and types of cooking (barbecue, electric slow cooker, bread maker, wok). Readers have literally thousands of books, Web sites, and magazine articles from which to choose. The recipes included here are "basic," that is, they are simple and can be enhanced according to readers' tastes. With so many fruits, vegetables, and meats to chose from, the possibilities for delicious and nutritious meals are almost endless. Beware of Web surfing for "traditional Native foods," however, because there are numerous Web sites with hundreds of recipes that feature butter, lard, sugar, and processed foods—the very ingredients we should avoid.

All tribes face a similar dilemma: Once our people were strong and physically healthy. Now, we are facing a health crisis of epidemic proportions. The ailments discussed here should be enough incentive to convince Natives to reconsider a traditional diet, or at least to incorporate parts of a traditional lifestyle into their current, unhealthy one. If we have knowledge about how we got into this situation, and we want to improve ourselves, then what shall we do about it? There are a few things to keep in mind:

Fresh, unprocessed foods are healthier than fried, processed ones.

Homegrown foods can help develop pride and healthy bodies.

Natives gathered, hunted, and cultivated foods that kept them healthy. Foods eaten at fast-food joints are the opposite.

Food we prepare in our kitchens give us control over what we and our families eat. When we buy food at fast-food restaurants, we are giving others control over what we consume.

Preparing food in our kitchens gives us pleasure and peace of mind. It can be relaxing and gives us time to think. Cultivating and preparing our foods slows us down and puts us in a calm state. We can escape from the stress of our jobs and fast-paced lives. Read Carl Honore's *In Praise of Slowness: How a Worldwide Movement Is Challenging the Cult of Speed* (New York: Harper Collins, 2004) for suggestions on how to escape the general rush of today's society and how to slow down and savor the time you have allotted to you. Pulling weeds, fertil-

izing, picking fruits and vegetables, peeling potatoes, shucking and grinding corn, and making meals are among the best ways to relax and think. And, when you are in the kitchen preparing meals, people tend not to bother you.

A little bit of exercise, every day, adds up in the long run.

No one can force you to eat unhealthily, to smoke, or to be sedentary.

Educate yourself about nutrition and fitness and you can change your life.

Working on one's diet and activity level is only part of what we should be doing. We also need to investigate what our tribes ate, how they cultivated crops, what and how they hunted and fished, and how they prepared foods and saved seeds for the future. How can we participate in the preservation of agricultural techniques? What are our tribes' ceremonies associated with food? What are the names of our foods and animals in our tribes' languages?

Making choices about the foods we eat can be greatly empowering, not only for our bodies but also for our minds. The traumatic effects of colonization continue to be devastating, wreaking havoc on our emotions and thoughts. Feelings of insecurity, identity confusion, anger, frustration, and despair are common among Natives. Looking to alcohol and drugs, or physically abusing others, are not rational ways to find relief. We must deal with our emotional and psychological issues holistically. We must engage our elders. We must recover our traditional indigenous knowledge to discover how our ancestors solved their problems. We must care for our families and communities so that we become part of the circle of people who support each other in times of grief and pain. We must become educated about our tribes' rich histories and cultures to develop pride in ourselves. We must become politically active and pressure our tribal councils to make certain that they deal fairly and impartially with the myriad issues that tribal people face (educational systems; policy and laws, including juvenile justice; treaty rights; economic development; environmental protection and management; health care; housing maintenance; language programs, and so on).

But our tribal leaders cannot change everything for us, and many

Natives live in urban environments far from their tribal communities. What we can do for ourselves is to change our diets and activity levels and thus change our health. By eating well, we are less likely to crave dangerous substances, to lash out at others, and we are more likely to become happy, contributing members to our families, communities, and tribes. Working to eradicate racism, stereotyping, and discrimination, as well as striving to improve school curricula, social services, and the environment, gives us strength and provides hope for others. Becoming aware of our tribes' history, learning our language, engaging our elders, and becoming politically active all contribute toward decolonization, building pride, and shaping our identity as Indigenous people. Improving diets and lifestyles is all a part of the larger picture of empowering our tribes, our communities, our families, and ourselves. In other words, as we heal ourselves, we can assist in healing others.

It is also not my intention to create another "diet" book. Books discussing the latest fads such as Atkins, South Beach, Dr. Phil, the Zone, Suzanne Somers, and so on, have proliferated to the point where many are available at truck stops and gas stations. Indeed, the number of diets on the market at any given time is staggering. All these recent diets, in addition to the old ones (i.e., the grapefruit, cabbage, peanut butter, candy bar diets) all promise the same thing: quick weight loss with minimal effort. Books and discussion about the low-carbohydrate craze, for example, have infiltrated every aisle of the grocery store and seemingly every commercial on television. The irony of all this focus on losing weight is that diets such as the "low-carb" do not work. They do not work because once a person goes off the diet they regress back to their old eating habits, and whatever ailment they had to begin with returns. As Chris Carmichael, bicycling champion Lance Armstrong's coach, says about the low-carb craze: "To think carbs make you fat is wrong. You're fat because you're not exercising. . . . You can't just cut carbs—or cut protein or fat, for that matter—like every trendy diet has for the past twenty years. That's dysfunctional. You need them all. To simply blame a food type for us being fat is bulls— —."[6]

There is one reason for all these diet books: Millions of people desire to be thin and they will try almost anything to reach that goal. Many of these people are gullible and will fall for just about any strange

diet suggestion. For example, I find the taboo against our Native staple foods—bananas, potatoes, and corn—on the South Beach Diet to be bizarre and impossible for me to obey, and the emphasis on fatty meat in the Atkins Diet to be equally so. However, for some people who have never watched their diets or have never exercised, curbing certain foods can help them to lose weight and to maintain motivation. Keep in mind, however, that a "successful diet" (you lose weight) could just as easily be one such as the Chocolate Diet, because not only will one get tired (and literally sick) of eating chocolate and won't eat so much after a few days, but other foods will be eliminated or reduced as well and therefore calories. You may lose weight eating only chocolate, grapefruit, or whatever, but how will your health be affected? There is such an obsession with thinness in this country that many people have forgotten that it is more important to be fit and healthy.

We need lifestyle changes, to make us physically and mentally strong, and a permanent alteration of our detrimental eating and activity habits. This does not mean you can never again eat your favorite foods. It is also true that to deny yourself chocolate or a French fry "from now on" is to set yourself up for failure. A dozen M&M's can satisfy that urge for chocolate without indulging in a piece of sugary and caloric chocolate cake and is much less damaging. Having a few French fries is better than eating a whole, fried apple pie. One day off from exercise is better than an entire week. But we shouldn't have to constantly battle our own will power. If we primarily eat the same foods that our ancestors consumed, we can once again become strong. After a few weeks of "traditional" eating, we will prefer strawberries and plums over chocolate. We will crave skinless, grilled turkey breast and sautéed squash instead of a greasy fast-food hamburger. Corn bread and beans will taste better than the caloric, nutritionally void fried bread. As Cherokee scholar Daniel Heath Justice commented to me not long ago:

> I was amazed to discover how much better I felt when I started increasing the Indigenous content of my diet. It's been a slow process, but thoughtfully substituting turkey for beef, cornmeal for white flour, and adding more beans, squash, fresh corn, fruits, and nuts to my diet while cutting back on beef, chicken, wheat, sugar,

> and milk products has made me not only more energetic, it's made me more mindful about my body and its needs. It is a gradual process—moderation in all things—but I've been surprised at how well it's worked.

I am not arguing that we should return to eating only foods indigenous to this hemisphere. Some purists might argue that we must stay truly "traditional," but it is my feeling that there are too many nutritious foods from the Old World that complement this hemisphere's offerings and we must take advantage of them. Many of my favorite foods are from the Old World and I cannot imagine grilling squash without sprinkling garlic on it or making *banaha* without adding sweet peas. The point is that "eating simply," that is, consuming fruits, vegetables, lean meats, and low-fat milk products can make a tremendous difference in our physical and mental health.

What I am trying to accomplish here, then, is to give a brief overview of what our ancestors' diets and health were like, how it is that we deviated from that healthy path and how we—and non-Natives striving to find a way to become healthy—can regain our fitness. Anyone wanting more information about traditional agriculture or the debates about "Indians as ecologists" would do well to consider the variety of books that make environmental management, agricultural techniques, and pharmacology their focal points. I am attempting to document the variety of Indigenous foods and to suggest how anyone can be creative in the kitchen. It does not take extraordinary effort, but it does require thought and determination.

Neither the recipe contributors nor I are nutritionists, but consider that the majority of physicians we go to see about our various ailments and concerns have little or no training in nutrition. Physicians attempt to fix physical problems, but usually they do not know how to prevent them.[7] If some Natives can step forward with healthy, personalized suggestions that have worked for them, then perhaps others can benefit. After decades of reading about nutrition and exercise, I have a fairly good grasp of what my body needs to stay healthy. At 48 years of age and with only 16% body fat (at 5 feet 10 inches and 138 pounds), plus no physical problems (except job-related stress headaches), and because of a

lifetime of eating right and exercising, I and others who follow this same lifestyle may be on to something right. My diet has always consisted of fruits, vegetables, lean meats, and whole grains. This strong nutritional foundation allows me to indulge in occasional non-nutritious additions (wintergreen Lifesavers, gum, and tortilla chips, pizza, and dinner wine are my "vices"). I have been interested in nutrition most of my life, beginning in junior high when I began to play competitive sports. I realized that paying closer attention to what I ate and drank would enhance my abilities in the sports I played. I continue to make it a point to know how many nutrients that my family and I consume.

While those of us who pay attention to the quality of food we eat generally have lower body fat and better health than those who do not, we can attest to the reality that it is not always easy to stay disciplined. We know that eating an apple is better than mindlessly munching a handful of potato chips, and that a spinach salad is more nutritious than greasy fish and fatty hamburgers from a fast-food restaurant. But the stark reality is that chips and oily fish are made by their manufacturers to be cheap, flavorful, and readily available. If we decide to go against our better judgment and indulge, we often tell ourselves that just a few will not hurt. The problem begins when we continue with that line of thought.

It does take self-control and will power to eat healthily and to exercise on a daily basis. I can attest that it is possible to talk yourself out of liking cookies and salty, greasy snack foods. It is up to us to make ourselves physically and mentally strong again so that we may take care of our families and our nations. We can only do so much to combat racism and prejudice, but we can control what we put in our mouths and how much we move around. We must take responsibility for our health and for the well-being of our children. In so doing, we pass on a legacy of self-respect and tribal strength to future generations.

Nothing comes easy, especially after a lifetime of bad eating habits and no exercise, but it is not that difficult, either, to become healthy. We can take small steps. We can try healthy foods we usually ignore when we shop. We can discover ways to cook that leave our meals less fatty, sugary, and salty. We can walk instead of driving. We can park father away from stores in the parking lots. We can take stairs. We can start a

walking or biking regimen with family and friends. We can learn to play stickball, to shoot hoops, and to swim.

We all make decisions throughout our days and many of those choices revolve around food and activity. Do we pick a fatty cheeseburger, milkshake and super-sized fries, or a chicken salad, tea with honey, and cup of berries? Greasy and salty kung pao chicken or sautéed vegetables? A large sugary soda or cold water with a squeeze of lime? Watch four hours of television or ride bikes through the neighborhood with our families and play Frisbee in the park?

It is very easy to make the wrong choices about food, drink, and exercise; but it is just as easy to make the healthy ones.

# Indigenous Health and Diet

# 1

# The State of Indigenous Health

In a recent commentary, physicians Neal D. Barnard and Derek M. Brown stated that the federal government advocates a diet that is unlike the traditional diets of Native peoples: "For Native Americans, current federal dietary guidelines promoting a meaty, cheesy diet amounted to, perhaps inadvertently, the nutritional equivalent of smallpox-infected blankets."[1] Indeed many Natives devour the absolute worst in food choices offered by the American food industry because most Native consumers are not educated about how those foods are processed and with what ingredients. They fall prey to misleading ads that tell us these fried, salty, fatty, and sugary foods are good for us. In reality, problems such as heart disease, stroke, diabetes, and cancers that develop from ingesting dangerous foods can be compared to death from smallpox. The signs and symptoms may differ, but the ultimate outcome is the same.

An example of how out of step nutrition "experts" are with the needs of Natives is a study conducted in 1977 in *Gastroenterology* that revealed that 100% of Natives tested were lactose intolerant, which is a food intolerance to the sugar lactose that is found in milk products. Those suffering from lactose intolerance are deficient in the enzyme lactase. Food not digested by lactase in the stomach enters the colon where it produces uncomfortable bloating, cramping, and diarrhea. Almost 50 million Americans have lactose intolerance and it is estimated that 75% of American Indian adults have lactose intolerance. Yet the Dietary Guidelines advises that everyone eat two or three servings of dairy foods per day, despite the fact that other foods, such as green leafy vegetables and beans, also supply calcium.[2]

Not everyone can tolerate foods containing wheat or gluten, either. A condition known as celiac disease disallows the consumption of foods with wheat or gluten, in addition to barley, rye, and oats. Those who

eat these foods can suffer from bloating, diarrhea, headaches, and hives. If these problems are ignored, celiac disease can lead to dehydration, anemia, muscle spasms, bleeding, nerve damage, infertility, loss of appetite, fatigue, and impotence (see http://www.celiac.com/ for detailed information). This is a tough problem for those who like foods containing gluten and wheat: bread, pasta, cookies, muffins, scones, pizza, pies, cobblers, ready-to-toast pastry, hamburger buns, and, well, this is a long list. But these ingredients also show up in seemingly unlikely foods such as soups, rice products, fudge syrup, chocolate milk mixes, laxatives, hydrolyzed vegetable protein, grain alcohol, vanilla, and candy.

Lactose intolerance and celiac disease might seem minor problems compared to other ailments that Natives must contend with. Using the Oklahoma Choctaws as an example, consider that almost every issue of the Choctaw Nation's newspaper (*BISHINIK*) for the last ten years has had at least one, but usually two or three, articles about diabetes, obesity, eating right (usually a WIC—Women, Infants, and Children—column that features recipes and nutrition information), and exercise. In response to this epidemic, the Choctaw Nation participates in the "Walk This Weigh" campaign and an annual Walk-Run for Diabetes Awareness, sponsored by the Choctaw Nation Health Care Center. It also sponsors a Youth Wellness Camp and funds a Diabetes Treatment Center that tests and educates Choctaws. In addition, a group of workers with the Diabetes Multi-Resource Task Force travels across the Choctaw Nation to test fifth graders for diabetes and to give presentations about healthy lifestyles.

There is good reason for publishing this information and opening more centers. At the 2002 Labor Day Festival in Tushkahoma, Oklahoma, for example, a test measuring fat content revealed that over half of 115 people participating were at risk for developing diabetes; of 344 who took a blood test, 35 people had blood glucose levels of 140 mg/dl. Of 64 diabetics tested for blood glucose level, 22 had levels above 200 mg/dl. Furthermore, the Native American Diabetes Initiative asserts that in some tribes, Type II diabetes has stricken half the tribal members.[3]

Diabetes is one of the most common ailments afflicting Native people. It is estimated that 17 million Americans, or 6.2% of the U.S. population, has diabetes, compared to 30% of American Indians, who are 25% more likely to develop diabetes than non-Natives. In February 2002,

the Choctaw Nation reported that in 2001, 831 new cases of diabetes were diagnosed, bringing the total number of Choctaws with diabetes in the service area to 3,800.[4] The number may be much higher, however, because many people with diabetes have not been diagnosed.

Diabetes mellitus occurs when the pancreas stops producing the hormone insulin or does not create enough for the body to function properly. Without insulin, the liver cannot absorb enough insulin to store and the cells cannot absorb enough to use for energy. The result is excessive glucose in the bloodstream and in the urine. There are two types of diabetes mellitus: Type I represents 5 to 10% of all cases of diabetes and occurs when the pancreas produces little or no insulin. The body must obtain energy from fat because it has no glucose to draw upon. As the fat is utilized and burned, the by-product ketone is produced, which leads to a dangerous condition called ketoacidosis that causes dehydration and high levels of blood sugar. Those who suffer from Type I diabetes usually depend upon daily insulin injections.

Type II usually affects those over forty and is often caused by overeating or an imbalanced diet, although genetics is also a factor. The insulin-producing cells in the pancreas produce insulin, but not enough for normal bodily functions, or there is inadequate tissue sensitivity to the insulin that is produced. Type II affects 90 to 95% of those with diabetes and can often be successfully treated by diet and exercise, although oral antidiabetic medications are sometimes required as well.

Symptoms of diabetes include frequent thirst, excessive hunger, skin ulcers, pain when walking, an uncontrollable urge to urinate, and fatigue, especially after a meal because the body is awash with sugar that it cannot process. A diabetic will also have numb or tingling feet and hands, cuts that heal slowly, blurry vision from too much sugar in the bloodstream that stretches the lenses, headaches, higher than normal blood pressure, breath that smells strongly because of the liver breaking down fat for fuel, and a leathery band of skin around the neck.

Those who suffer from diabetes have a higher chance of developing atherosclerosis and high blood pressure, which can lead to a stroke or heart attack. There also is a chance of developing retinopathy, an eye disease that can lead to blindness. Nerve damage can also result from

diabetes, which can cause blindness and sometimes the necessity for extremity amputations.

Diabetes does not just attack the elderly. Although an individual may think he or she is eating right and has no family history of diabetes, that person may be surprised to find they are diabetic because of the types and amounts of foods they ingest. Even if an individual is lean in comparison to most other people, that person may have a dangerous body-fat composition. Some apparently skinny people may carry too much fat in comparison to their muscle content.

Very thin people can create high glucose levels if they eat incorrectly. Many believe that consuming sports and fruit drinks and a fat-free diet can make them immune, but even strong athletes with little body fat and high metabolisms often take in a tremendous amount of calories in their diets. All that sugar and carbohydrate can be turned into more glucose than their bodies can handle. A test can tell you quickly: A blood sugar level greater than 125 is considered diabetic. Abnormal blood-fat levels can put a person at risk, so it is crucial to have a lipid screening. A person is in potential trouble if their triglyceride level is high and their HDL cholesterol level is low.

A major contributing factor to developing diabetes is obesity. Gaining eleven to eighteen pounds doubles the risk of developing Type II diabetes. Just gaining ten pounds increases one's risk of heart disease and gaining twenty pounds doubles a woman's chances of developing breast cancer. Although genetic background might account for a predisposition to obesity, the major culprits in determining its expression in an individual are overeating and underexercising. Many Natives pay little attention to what they put in their mouths and take advantage of the American culture that presents food in extra-large sizes, in cheese-filled crusts, in easy-to-microwave containers, in lattes with heavy cream, and in fast-food shops. The serving sizes of French fries have increased, as have the sizes of movie popcorn bags and buckets. Restaurant portions and bottles of soft drinks are often large enough for three people and are relatively cheap, mainly because they are made with trans fats and high-fructose corn syrup. *Outside* magazine recently cited a study by psychologist Paul Rozin, who found that despite the French propensity for fatty foods, only 7.4% of the French population is obese compared

to 22.3% of the American population. He found that a regular serving of fries is 72% larger in the United States than in France, a pizza is 32% larger, an average chocolate bar is 41% larger, an average cola is 52% larger, an average hot dog is 52% larger, and an average serving of ice cream is 24% larger.[5]

Corn is produced on such a large scale that it can be sold cheaply as sweetener, for high-fat and high-calorie snacks such as corn chips and as feed to create fatter pigs and cattle. Unless one is a hunter who eschews deer blinds, stands, and ATVs and walks to stalk game, or is skilled with a blow gun and can track squirrels, rabbits, and birds for hours, or is a devout gardener who eats only what is grown in the home garden, we rarely have to use many calories to acquire our meals. Americans have adopted a sedentary lifestyle and watch hours of television and play videogames every day.

According to the National Center for Chronic Disease Prevention and Health Promotion, in 1999, an estimated 61% of U.S. adults were either overweight or obese, defined as having a body mass index (BMI) of 25 or more. Just one year later, in 2000, 38.8 million American adults were obese, defined as having a body mass index score of at least 30. The Behavioral Risk Factor Surveillance System shows that, in 2002, half the adult population in fifty-one states was overweight or obese, up from twelve states in 1992. There are almost twice as many overweight children and almost three times as many overweight adolescents today as there were in 1980. The number of those who are "severely obese" (with a BMI of 40 or more) is growing twice as fast as the number who are "obese." Obesity is indeed an epidemic and, sadly, obese children usually grow into obese adolescents and 80% of obese teenagers will develop into obese adults.[6]

Although guidelines have been established for determining obesity from the body mass index, this can still be somewhat confusing, however, because some people are quite muscular, and since muscle weighs more than fat, they might weigh more than the height-weight charts suggest that are geared toward a "normal" population. Calculate your BMI and read more about the difference between overweight and obesity at http://www.halls.md/body-mass-index/bmi.htm and the Centers for Disease Control's *Nutrition and Physical Activity, Obesity and Over-*

*weight: Body Mass Index (BMI)* and http://www.obesity.org/subs/about.shtml.

Men can calculate their BMI (body mass index) by dividing their weight in pounds by height in inches, squared. Then multiply by 705. If your BMI is over 25, you may be overweight, and a score over 30 indicates that you are obese. There is an obvious problem with this, just as there is a problem with muscular women who apply to be airline attendants but who are considered "overweight": muscle weighs more than fat. Many fit people would be considered overweight or obese.

Men can check their body fat content by measuring their waist at the belly button (although the underwater method is the most accurate). If it is more than forty inches, then you are carrying too much fat. A woman is carrying too much fat if her waist is over thirty-five inches. You can check the fat on your thigh by sitting in a chair with your feet on the floor. Pinch the skin on the top of a thigh and if the width of that pinch is more than an inch, you have too much fat.

Obesity is now so pervasive that consumers can buy items to fit their bulk: larger caskets, chairs, stronger beds, washcloths on "sticks," and plus-size clothes. A notable example of how Natives are affected by this deterioration of health is found in the 1994 journal *Diabetes Care*, which reveals that Pimas in Mexico who ate more of a traditional diet were less fat and suffered less from diabetes than Pimas living in Arizona who ate a Westernized diet of fatter foods.[7]

Physical problems associated with obesity are numerous. Overweight children and adults are prime candidates for cardiovascular disease, diabetes, high cholesterol levels, hypertension, orthopedic disorders, pancreatic disorders, respiratory diseases, and various cancers. Obesity also causes a variety of other problems, such as low self-esteem and lack of confidence, and it attracts stereotyping.

Alcoholism is another by-product of colonization. In fact, alcohol abuse is the most widespread form of drug abuse in the country. A disease, alcoholism has touched most Natives, either because they personally drink too much or they have family or friends who do. Alcohol can cause cancer, can damage internal organs, can cause problems with memory, concentration, judgment and coordination, can lead to bleeding gastritis, impotence in men, and can damage fetuses and, therefore,

the baby—a condition referred to as Fetal Alcohol Syndrome. If alcohol is consumed in cold weather, hypothermia can result from the dilation of the blood vessels, allowing heat to escape the body. Overconsumption of alcohol can lead to liver failure, which means it can no longer process nutrients, and the heart can become weak and damaged. Alcohol inhibits the absorption of medication and adds a significant amount to the drinker's daily caloric intake, and it is not just the alcohol itself that can destroy the body; alcohol impairs judgment, which has resulted in thousands of vehicle (car, boat, and motorcycle) accidents and homicides.

Tobacco, while not a food, is often associated with food. Some people smoke continually, some only sporadically, maybe to curb their appetites, or they smoke after a meal. Smokers have difficulty breathing and may find walking—and certainly running—difficult. Tobacco is indigenous to the New World, but Indigenous people did not smoke themselves to death. Depending on the tribe, tobacco was (and is) associated with religion and ceremonies. "Indian Tobacco," that tobacco without any additives (carcinogenic substances, tar, and nicotine found in commercial cigarettes), is the common name for the plant *Lobelia inflata* (although it is also known as asthma weed, gagroot, pulseweed, emetic herb, frengiotu, lobelia, wild tobacco, and vomitroot). Lobelia is used for medicinal purposes, as an antispasmodic herb and as a respiratory stimulant for conditions such as bronchial asthma and chronic bronchitis. The dried herb and the seed also can be used as an antiasthmatic, diaphoretic, diuretic, emetic, expectorant, and nervine and can be used to treat asthma, bronchitis, whooping cough, and pleurisy. The plant can be used externally in treating rheumatism, boils, and ulcers. Excessive use, however, can cause nausea, vomiting, and respiratory failure.[8]

The use of commercial tobacco today is a huge threat to Natives. Not only is it addictive, tobacco smoke also contains almost four thousand chemicals, and for every cigarette smoked, that smoker can expect to lose approximately 5.5 minutes of life expectancy. Smoking cigarettes and cigars is the major cause of lung cancer. It reduces fertility, severely damages the fetus, and causes cancers of the pancreas, bladder, mouth, esophagus, and cervix. Even if you do not smoke, but someone in your

household does, you are still vulnerable to these problems because of second-hand smoke. Dipping snuff can cause a variety of cancers as well.

All the ailments discussed here should provide enough evidence to convince most people who eat poorly to consider a traditional diet, or at least to incorporate parts of a traditional lifestyle into their current unhealthy one. On a positive note, many people are acutely aware that numerous health problems arise from a poor diet and lazy lifestyle. Most people who are overweight, or those who suffer physical ailments because of poor lifestyle habits, are aware that their diets have in large part contributed to their situations. *Parade Magazine* tells us that in 1993, one American out of five was on a diet to lose weight. Ten years later, that has risen to one in three. *U.S. News and World Report* states that at any time, 29% of men and 44% of women are dieting.[9]

But instead of getting thinner and fitter, we are becoming fatter and sicker.

# 2

# Traditional Diets

Think of Thanksgiving dinner: turkey; corn-bread stuffing; salad of red, green, and yellow vegetables; green beans; squash; tomatoes; corn bread; cranberry sauce; baked beans; maple syrup; mashed potatoes; appetizers of smoked salmon and peanuts; and desserts of peanut brittle, pecan, sweet potato, and pumpkin pie.

What all these foods have in common is that they are indigenous to the Western Hemisphere. The "Americas," as we now call them, has provided the world with at least half the plant foods we know today. This "New World" was home to a plethora of fruits and vegetables, including those mentioned above, and tomatoes, an array of chili peppers that span the heat index, beans of many kinds, cherries, acorns, piñon nuts, black walnuts, hickory nuts, vanilla, avocado, yellow and red bell peppers, manioc, raspberries, strawberries, blueberries, cactus, guava, papaya, passion fruit, pineapples, artichoke, and cacao (those golden-green pods that, mixed with sugar and other ingredients, give us chocolate). Corn played the major dietary role for many of the New World tribes. By 1492, Indigenous peoples were cultivating at least two hundred types of maize, some of which Columbus took with him back to Europe. From there, maize was taken to the Mediterranean; the Venetians took it to the Near East, then to other places around the world.

In South America, a variety of foods unfamiliar to most of us supplied Natives (most notably the Peruvians) with adequate nutrients: grains with twice the protein content of white rice or corn; potatoes with a naturally buttery taste; tubers that were pink, yellow, and red striped; purple, white, and yellow roots with a taste like celery, cabbage, and chestnuts. Incredibly, Natives of the Andes cultivated almost three thousand types of potatoes. The conquistadores, in their religious and economic zeal, destroyed those crops in favor of more European traditional crops of wheat and barley. Fortunately, there is a resurgence of some of these

foods in the produce aisle: cherimoya, tamarillo, quinoa, and pepino dulce.[1]

Some scholars argue that the basis of the Native diet was "guts and grease." This is debatable, considering the sheer variety of vegetable matter available to some groups. While some tribes may have depended on animals for the vast majority of their diet (such as Arctic and Plains tribes), not all of them did.[2] Still, although during times of difficult hunting tribes would depend on vegetables, fruit, nuts, and seeds, most Native people were not vegetarians. Depending on where they lived, Natives consumed alligators, bears, beavers, buffalo, caribou, deer, moose, ducks, elk, rabbits, a variety of fish (salmon, smelt, bass, trout, sturgeon, etc.), geese, insects, opossums, raccoons, squirrels, turtles, seals, shellfish, and whales, to name a few.

Tribes also included a variety of "wild plants" in their diets: arrowroot, bearberry, black birch, black mustard, bulrush, buttercup, cattail, chickweed, chokecherry, coltsfoot, common plantain, dandelion, elderberry, evening primrose, great burdock, lamb's quarters, milkweed, mint, ostrich fern, purslane, stag sumac, stinging nettle, thistle, watercress, wild rose, wintergreen, wood sorrel, yellow clover, and yellow water lily. These plants were usually eaten raw, cooked, as a beverage, or mixed in soups and stews.

Natives used a number of herbs for medicines, many of which are the basis for modern medicines. Earache, for example, was treated by the Kickapoos with boiled and strained mescal beans poured into the ear; Sioux tribes used boiled white milkwort; and Winnebagos used boiled yarrow. Fevers were treated by Choctaws with bayberry tea, while Delawares and Alabamas boiled and drank dogwood bark. Pomos boiled the inner root bark of the western willow; the Natchez used red willow; and Pimas, Mohegans, and Penobscots also used willow for fevers and chills. Onondagas drank pennyroyal tea, while Mescalero Apaches used another variety of pennyroyal by inhaling crushed twigs. Navajos used fendler bladderpod tea, saltbrush, and crushed snakeweed to treat insect bites and stings. Dakotas and Winnebagos placed crushed bulbs of garlic and onions on wounds.[3]

The addition of these foods and herbs to the world's diets and medicine chests fantastically altered the human population. Ironically, the

Indigenous population of the Western Hemisphere plummeted dramatically while the population of the world doubled between 1650 and 1850; then doubled again in the next one hundred years. In the area we know as the United States, from 1492 to 1750, the non-Native population grew to 2 million; by 1900, that had grown to 83 million. In 1492 Europe, the population was approximately 70 to 88 million; then by 1900 had exploded to 435 million. Much of this can be attributed to food, most notably because of corn that is now grown around the world; peanuts that became popular in Africa and China; sweet potatoes that were grown in Africa, Southeast Asia, and China; and manioc, that tropical shrub root that grows in harsh environments, especially in Africa. Of course, vaccinations, better health care, and sanitary conditions also contributed to population increase. The Indigenous peoples were not so fortunate. In the Western Hemisphere, their numbers decreased from 72 million in 1492 to 4.5 million in 1700. In the area we know as the United States, their numbers dropped from 5 million to 600,000 in 1800 to less than 125,000 in 1900 from disease, warfare, removal, and relocation, destruction of life ways, fertility decline, and other factors.[4]

**Religious Significance of Food**

Many tribes' cosmology places food in important positions. Numerous tribes in the Northeast and Southeast still observe the Green Corn Ceremony each year as the corn matures. The ceremony is a combination of thanksgiving and renewal because of the promise of corn for the year and seeds to plant the following spring. For Navajos, the word *mother*, or Changing Woman, represents the three major elements of Navajo subsistence: corn, earth, and sheep. This self-renewing entity symbolizes the growth, death, and rebirth of corn. Changing Woman is young in spring, is harvested in the summer, grows old and fades in the fall, dies in the winter, and then sprouts (is reborn) the next season.

Other tribes have similar stories about food. Old Salt Woman among the Cochitis provided the salt for Great Salt Lake and the people who use salt for their food. Cherokee women believe they came from Corn Mother or Selu. For the Tewa Pueblos, the first mothers were known as Blue Corn Woman and White Corn Maiden. Cheyennes believe their food is supplied by a female who takes the shape of an elder. Penobscots

say First Mother renews herself each year with corn for her people. White Buffalo Woman of the Sioux ensured that her people would have bison to eat and to use for clothing and tools, and the Sioux honored the bison by using every part of its body for food, shelter, and tools.

Indeed, among most tribes there was much ceremony associated with food production, cultivation, and distribution. Food was and still is a focal point of a society's survival, permeating daily activities, song, and celebration, as reflected in this Hopi song:

> Oh, for a heart as pure as pollen on corn blossoms,
> And for a life as sweet as honey gathered from the flowers,
> May I do good, as Corn has done good for my people
> Through all the days that were.
> Until my task is done and evening falls,
> Oh, Mighty Spirit, hear my grinding song.[5]

**Choctaws and a Cornucopia of Food**

A Story: A long time ago there was a small Chahta boy named Achafa Chipota who, despite his stature, ran faster and had better aim with his bow than any other child. One day, Achafa Chipota accompanied his father and group of hunters on a trip to find game. He quickly proved himself to be tough and ready to work hard. He killed several rabbits and squirrels for the hunters to eat. One morning as he was hunting small game, he came across a large hog—a *shukhusi*—and he managed to kill her by shooting her through the eye with his small arrow. He then discovered that *shukhusi* had a family of small piglets, whom he took with him on the rest of the hunt and then back to his home.

He cared for the piglets as they grew into hogs. Then they reproduced. One time a Mi̲ko (district leader) came to his house for a meeting and Achafa Chipota's parents did not have enough food. Achafa Chipota surprised them by killing one of his hogs to cook along with the acorns. Normally, his mother would have served bear meat. The Mi̲ko was delighted with what he called the sweet meat. The Mi̲ko then renamed Achafa Chipota *Pelichi Shukhusi*—the tamer of pigs—and he was given the task of instructing Choctaw families how to raise hogs.

Another Story: One time shortly after Achafa Chipota became Pelichi Shukhusi, two hunters became lost in the woods. They were cold and hungry with only one little rabbit to cook for dinner. As they watched the rabbit cook, they heard a woman crying. They rushed through the woods to find a young woman dressed in white, sobbing. They led her back to their fire and asked who she was and why she was out in the cold woods alone. She explained that she was the daughter of Hashtali (Sun Father) and Moon Mother, and while she was on an errand for them, she ran out of food and became too weak to continue. They took her to their camp and gave her their small rabbit, but she took only one bite and then told them they would be rewarded for their kindness. She told them to return the next morning to where they found her and then she vanished. The surprised hunters then ate the remainder of the rabbit and waited through the night to return to where they found her.

Upon returning to the site, the two hunters found in the snow a green plant over six feet tall with a golden tassel at the top. The leaves were long and within were long fruits. The hunters took one of the fruits and peeled back the green covering to see what looked like small seeds set in neat rows. They took a bite and realized that the strange food would taste better cooked. They took the remaining five ears home and planted the kernels in the spring. In the fall, they had a crop of the new food they called *tanchi*. Shortly afterwards, Chahta families planted *tanchi* every spring, harvested it in the fall, and learned to dry the kernels and to cook *tanchi* in a variety of ways. Chahtas liked *tanchi* so much that *tanchi* and pork replaced their previous favorite dish of bear meat and acorns.

The story about *shukhusi* was created after contact with Europeans because pigs were only brought to the Southeast by Hernando De Soto when he landed at the Atlantic Coast of Florida in 1539. But as with Apache groups, who have stories that say horses were always a part of those cultures, and Navajos, who have similar stories about sheep, Chahtas have stories that imply pigs and hogs were always with them. These stories tell of how quickly these animals and food sources became important to the tribes.

Combining Choctaw stories with those of non-Native observers, we find that, while in Mississippi, the tribe raised or had access to a cornu-

copia of food. Chahtas cultivated or foraged for *tanchi* (corn/maize),[6] *isito* (squash), *tobi* (beans), *shukshi* (watermelon), *nusi* (acorns; acorns are a food used by many tribes in bread and stews, although they must go through a difficult processing so they will not taste bitter or give the eater abdominal distress), *tobe hollo* (peas), *shachuna* or *hatofa̲laha* (onions), and *ahe* (potatoes and sweet potatoes.) There were also *isht atiaka* (fruits), such as *takkonlushi* (plums), *ha̲shi* (sunflowers), crabapple, *ukof* (persimmons; often mixed with *wak nipi*—beef—or *isi nipi*—deer meat—in a stew), *paki lusa* (large black grapes), *ita̲likchi a̲ni* (cherries), *bihi* (mulberries); and *a̲ni* (nuts), such as *uksak* (hickory), *fa̲la* (pecans), and *uksak hahe* (walnuts; John Swanton states that walnuts were not used much for food, but considering their flavor, this is a surprising comment).[7] Bernard Romans, a surveyor and mapmaker who traveled through Chahta country in the late 1770s, states they grew *tohe* (cabbage), *hatofa̲laha* (leeks), and garlic, but claims that they only grew these crops for trade, along with *okfochush kanhmi* (ducks) and *shukhusi* (hogs). Considering that Choctaw stories tell us they did indeed use hogs, it stands to reason that the people also ate the crops they cultivated.

Chahtas also ate *akaka chaha* (turkeys) and *nita* (bears). Gideon Lincecum (1793–1874), a nineteenth-century physician and naturalist, wrote his observations and information gleaned from Chahta informers from 1823 to 1825. He writes in his *Lincecum Manuscript* that Chahtas who lived in Louisiana smoked out hibernating *nita lusa* (black bears) from hollow trees and caves and shot or speared them. They boiled the *nita nia* (bear fat) and *nita nipi* (bear flesh) and then stored it in deer bladders or plugged deer heads. The bear oil could be used for cooking, curing, or rubbing on rheumatic parts of the body. They also fished (he mentions the *nakishtalali*—catfish that were broiled) using bone and later metal hooks and gathered *oka fulush* (mussels). He reports that Chahtas ate *hachunchuba* (alligators), *yannash* (buffalo; far west of the Mississippi River), *chukfi haksobish falaia* (long-eared rabbit, perhaps the jackrabbit), *shunlulo* (larks), *kofi* (quail), *hachtaki* (this word, properly spelled "hachotakni," refers to a loggerhead turtle but Lincecum calls them hard-shelled turtles), and *halwa* (soft-shelled turtles).[8] Other tribes in the Southeast, including Cherokees, Chickasaws, Muscogees,

and Seminoles also had access to many of these plants and animals and they prepared them in similar ways.

Traditionally, Chahtas followed a thirteen-month calendar that reflected how they produced, gathered and cultivated food:

> *Hvsh Hoponi* (Month of Cooking) was when the gardens had to be harvested and the food stored in some way, either dried or cooked. Many foods were made into "breads" that included acorns, beans, berries, nuts, onions, peas, persimmons, squash, and sweet potatoes. *Banaha*, for example, was and still is made by mixing boiling water and cornmeal, and sometimes beans, into a firm dough. This dough would be shaped into small rolls, then placed in corn shucks, tied with strips of shuck, then cooked under hot ashes. For a different flavor, hickory or chestnut oil might be added to the cornmeal. This could be stored for months and reheated.
>
> Squash, corn, and beans are also known as the "Three Sisters" because these three vegetables often are grown together. Climbing or pole beans wrap upward around the corn stalks, while the large squash leaves help to keep competitive plants out and shade the ground, and therefore provide moisture and protection for the corn roots. For many tribes there is much spiritual significance associated with corn. Hopis, Navajos, Cherokees, Iroquois, and Apaches, for example, have creation stories that focus on corn and numerous tribes knew the convenience and practicality of cultivating the three plants together. A properly maintained garden of Three Sisters can help ward off nighttime visitors such as raccoons, deer, and rabbits because of the densely grown vegetation (although I have found that prairie dogs and moles are apparently undeterred even by fencing that extends two feet under the ground), and it provides a shelter for birds. I have discovered that sparrows, yellow finches, woodpeckers, Steller's and piñon jays, and nuthatches especially enjoy the damp shade from the Flagstaff sun when the soaker hose is turned on.
>
> Corn can be made into a variety of dishes. *Tamfula*, for example, is made several ways, generally with finely ground and shifted corn (that has been previously soaked to loosen the hulls), water, and wood-ash lye that is garnered by pouring cold water over clean wood ashes;

the water drips into a trough and is collected. The high alkaline lye from the ashes contributes to the nutritional quality of the dish. The mixture is boiled from a few hours to all day. Variations include adding beans or cracked hickory nuts. *Tash pishofa* (also seen as *pashofa*, *tash lubona* or *tash hoshponi*) is unground, boiled corn. *Tan hlabo* can be made from green corn. The kernels are cut from the ear and boiled with lye and any kind of meat until the meat falls off the bone. *Walakshi* (also seen as *walusha*) are dumplings made from cornmeal, grape juice, and/or peaches and mixed with boiling water. Hickory nuts were harvested in the summer and sometimes the oil was used to flavor dishes containing corn.

Chahtas used corn in a variety of other ways: roasted on the cob, ground into flour, and crushed into mush to mix with fruits and meats. One way of preparing *tanchi* was to dry out the kernels with hickory smoke to keep out insects. In winter the cracked corn could be cooked with meat. Some Chahtas carried a bag of cracked corn with them when they traveled, presumably needing strong teeth to eat it (think of Corn Nuts), or they might carry finely ground corn to mix with water in a hurry. It was observed by a Frenchman in the late eighteenth century that Chahtas would serve cracked corn softened with milk and honey as a cold meal. Husks and stalks were burned for fuel, while dolls, masks, and mats and were made from the husks. Surplus corn was stored by hanging the husks in storage pits. Swanton cites a Chahta source, Simpson Tubbee, as saying that "Indian flint" or "flour corn" contained both white and blue kernels and was used for roasting. Some corn was used for popping.

Potatoes were preserved by cutting them into thin slices and drying them over a hickory fire. The result would have been similar to today's potato chip (without the frying, however). Those who preserved potatoes in this manner were called the *Ahi apet okla* ("potato-eating people").

*Hvsh Kvf* (Month of Sassafras) corresponds to our current December and early January in which the tree sap is now mainly in the roots. Chahtas dug buckeye, sassafras, snakeroot, and witch hazel that were used for medicines, while dyes were made from indigo, native to the

Western Hemisphere, in addition to maple, pokeroot, puccoon, and walnut.

*Hvsh Chvfiskono* (Month of Little Famine) is our January and *Hvsh Chvffo Chito* (Month of Big Famine) February. As one might expect, by this time the food supplies had dwindled and game animals were difficult to find.

*Hvsh Mahli* or *Mahili* (Month of the Winds) saw warmer winds from the southeast, and patches of green began to show. Poke salet, sheepshank, sour dock, lambs quarters, and wild onions were available for harvesting.

*Hvsh Bissa* (Month of the Blackberry), *Hvsh Bihi* (Month of the Mulberry), and *Hvsh Takkon* (Month of the Peach) tell us what fruits were picked during these times.

*Hvsh Watullak* or *Hvsh Watonlak* (Month of the Crane) is named after a white crane that lived in Mississippi; the squab (baby bird) was a favorite food, especially when mixed into a stew with corn and greens. Late July and early August was *Hvsh Luak Mosholi* (Month of the Fires All Out) when corn reached its roasting stage and the tribe danced the Green Corn Dance. The Green Corn Festival lasted several weeks and was a time for thanks. The tribe had become so dependent on *tanchi* that the Chahtas performed the Green Corn Dance every year when *tanchi* reached the roasting stage. The Chahtas continued to perform the Green Corn Dance well after they had been introduced to Christianity, and like many other Natives today, some Chahtas continue to dance every summer.

*Hvsh Tek Ihvshi* (Month of the Woman) was when young women were courted (although they were presumably courted during other times, as well). This time was after the Green Corn Dance, the weather was good, and heavy work for preparing for the year was not yet required.

*Hvsh Koinchush* (Month of the Wildcat) and *Hvsh Koichito* (Month of the Panther) are named after two large felines that were more populous than they are now. At this time, the mother cats were easier to kill because their kittens had started to wander more and the mother

was with them. Their meat was dried into jerky and reportedly lasted through the winter.

**Foods of the Western Hemisphere Peoples**

Other tribes had diets that were different in content from the Choctaws, but they were just as varied. Plains tribes (Arikaras, Assiniboines, Blackfeet, Cheyennes, Comanches, Crees, Crows, Dakotas, Gros Ventres, Hidatsas, Ioways, Kiowas, Lakotas, Mandans, Missourias, Nakotas, Ojibwas, Omahas, Osages, Otoes, Pawnees, Poncas, Quapaws, Tonkawas, and Wichitas) consumed plants such as beans (some taken from mice nests), buffalo berries, Camas bulbs, chokecherries, currants, hackberries, plums, and turnips, and animals such as antelopes, beavers, buffalo, deer, ducks, elk, muskrats, prairie dogs, rabbits, raccoons, porcupines, prairie chickens, skunks, and wolf pups. Bison supplied a variety of dishes: boiled meat, tripe soup, perhaps thickened with brains, roasted intestines, and jerked or smoked meat. Raw kidneys, liver, and tongue sprinkled with gall or bile were eaten immediately after a kill. One version of Plains pemmican consisted of thin strips of meat, marrowfat, and chokecherries pounded together.

Richard Irving Dodge, a career officer who in the late 1870s wrote his decidedly one-sided ideas about Natives in *The Plains of North America and Their Inhabitants*, had some interesting observations about Plains wildlife. A hunter with no apparent concern for environmental management, Dodge tells about the plethora of animals he killed in a two-week period in 1872: badgers, various birds (cranes, doves, grouse, hawks, herons, meadowlarks, owls, robins, quail, turkeys), buffalo, deer, ducks (teal, mallard, shovel-bill, widgeon, "butter-ducks," sheldrakes), elk, raccoons, and rattlesnakes. He also encountered bears (blacks and grizzles), cougars, pumas, and panthers.[9]

Depending on where they lived, Natives of what we now call Texas had numerous choices of plants, animals, and insects. Acorns, currants, grapes, juniper berries, mulberries, pecans, persimmons, and plums grew in many locales. Atakapans and Karankawas along the coast ate bears, deer, alligators, clams, ducks, oysters, and turtles, extensively. Caddos in the lush eastern area grew beans, pumpkins, squash, and

sunflowers, in addition to hunting bears, deer, waterfowl, and occasionally buffalo. The Coahuiltecans of south Texas and northern Mexico ate agave, cactus bulbs, prickly pear cactus, mesquite beans, and anything else edible in hard times, including maggots. Jumanos along the Rio Grande in West Texas grew beans, corn, squash, and gathered mesquite beans, screw beans, and prickly pear. They consumed buffalo and cultivated crops after settling on the Brazos River, in addition to eating fish, clams, berries, pecans, and prickly pear cactus. The Wichita Confederacy tribes occupied north-central Texas and gardened corn, beans, and squash along the many waterways.

Tribes in the vast area of the Northeast had access to numerous plants and animals, depending on the environment. Abenakis had a comparatively short growing season and did not depend on crops like their neighbors to the south. They fished for fish such as eel, shad, salmon, sturgeon, and smelt; hunted bear, caribou, and deer and gathered nuts, berries, and potatoes. Anishinaabes cultivated small gardens of Three Sisters, fished, gathered wild rice, and collected maple sap to boil down into sugar. Mahicans depended on the same crops, in addition to gathering water lily roots, mushrooms, berries, maple sap, deer, turkeys, and fish. Menominees also planted crops but to a lesser extent; instead, they gathered wild rice, fished, and hunted bison and deer. The Kaniengehawas, Oneidas, Potawatomies, Senecas, and Onondagas grew corn, squash, and beans in addition to hunting and gathering. The Hurons in the Georgian Bay of Lake Huron gathered artichokes and berries and fished and hunted for bears, deer, and beaver, but they mainly depended on corn, a crop they cultivated in large amounts. Because of the very real chance of losing their crops each spring from frosts, Hurons planted enough for almost half-a-million bushels a year and stored most of it for times of famine. They also had access to brill, carp, goldfish, pike, sturgeon, and whitefish in Lake Huron, and numerous animals: bears, beaver, elk, foxes, hedgehogs, lynxes, martins, moose, mule and white-tailed deer, mink, otters, porcupines, sables, turkeys, weasels, and wood rats. Winnebagos consumed a wide variety of foods, as did the Passamaquoddys, who ate a bit of everything including cultivated crops, wild plants, game animals, fish, and marine mammals.

California tribes had a variety of foods available year round, depend-

ing on their environment. Along the coasts of California and north into Canada, the environment supplied a plethora of flora and fauna (both land and sea) and supported hundreds of thousands of people. Even those inland had a variety of foods to utilize. The Cahuillas who lived south of the San Bernardino Mountains ate antelope they boiled, roasted, or sun-dried, several types of acorns, cacti, deer, piñon nuts, rabbits, reptiles, screw beans, and fish, while the Chumash along the Pacific Coast also ate fish, shellfish, and marine animals. Hupas in the Hoopa Valley consumed a variety of fresh water animals such as eels, sturgeon, and trout in addition to deer, elk, berries, nuts, roots, and acorns. Costanoans of the San Francisco area speared fish, gathered shellfish, and ate beached whales in addition to gathering acorns and a variety of fruits, insects, and honey. They practiced controlled burning, which allowed for the more effective growth of plants, and expanded the grazing area for animals. Although Kuroks, in the middle area of the Klamath River, had access to hundreds of plants and animals, they had taboos against eating bats, blue jays, caterpillars, coyotes, dogs, eagles, foxes, frogs, gophers, grasshoppers, hawks, lizards, meadowlarks, moles, owls, ravens, snakes, vultures, wildcats, and wolves. Shastas on the California-Oregon border used venison almost daily and fished for eels, salmon, and trout and gathered acorns, berries, seeds, bulbs, and nuts.

Those living along the Northwest coast such as the Bella Bella, Bella Coola, Chinook, Coosans, Haida, Kwakwaka'wakw, Makah, Nootkans, Quileutes, Salish, Tillamook, Tlingit, and Upper Umpqua were supported by a vast amount of foods from the ocean and the lush land. Salmon was a major source of food, along with other fish such as trout, halibut, and herring, followed by acorns, hundreds of different plants, marine mammals (whales, otters, seals), bears, beavers, lynx, deer, and small game such as rabbits and hares.

Plateau tribes such as the Cayuse, Coeur d'Alene, Colvilles, Kalispels, Klikitat, Kootenai, Lillooets, Modocs, Nez Perce, Okanagons, Sanpoils, Sinkiuse, Spokane, Thompson, Umatilla, and Yakimaate fished for salmon, trout, whitefish, and mollusks and made use of camas bulbs, wild water lily seeds (used for flour), berries, deer, elk, antelope, moose, bears, and rabbits. Colville and Sinkiuse males fished for four types of

salmon from May to October, while the women cleaned them. They normally acquired enough fish to dry and store for the winter.

The subarctic area that spans the continent provided tribes such as the Beavers, Carriers, Chilcotins, Chipewyans, Cree, Ingaliks, Kaskas, Kutchins, and Tanainas around Cook Island with salmon, catfish, trout, whitefish, beluga whales, seals, otters, bears, beavers, berries, camas bulbs, caribou, hares, moose, and roots. To the north, in the vast arctic region that stretches twelve thousand miles from the eastern Aleutian Islands to Greenland, Inuit peoples ate according to the environment: inland, mountain, or coastal. They consumed salmon, seals, caribou (and the partially digested greens in their stomachs), moose, squirrels, walrus, narwhals, shellfish, berries, wolverines, and foxes, polar bears, narwhal and beluga whales, cod and other Arctic fish, ptarmigans, owls, and guillemot eggs. Although they ate mainly meats, historically those meats and fish were not polluted, and they did not mix sugar and processed foods into their diets.

Food may have appeared to be less abundant in the Southwest than in other parts of the Americas, but to those who knew how and where to look, the sometimes hard environment supplied a variety of foods for the many tribes such as the Cocopahs, Navajos, Apaches—Chiricahuas, Jicarillas, Lipans, Mescaleros—Havasupais, Hualapais, Mohaves, Pimas, Quecgans-Yumas, Tiguas, Tohono O'odhams, Yaquis, and Pueblo tribes—Acomas, Cochitis, Hopis, Isletas, Jemez, Lagunas, Nambes, Picuris, Sandias, San Felipes, San Ildefonsos, San Juans, Santa Clara, Taos, Tesuque, Zias, and Zunis.

Natives foraged for piñon nuts, cacti (saguaro, prickly pear, cholla), century plant, screw beans, mesquite beans, agaves or mescals, insects, acorns, berries, and seeds and hunted turkey, deer, rabbit, fish (saltwater varieties for those who lived by the Gulf of California) and antelope (some Apaches did not eat bears, turkeys, snakes, owls, coyotes or fish). More sedentary tribes irrigated and cultivated the land for corn, cotton, pumpkins, sunflowers, beans for themselves and to trade to other tribes for meats besides the game they hunted. Apaches, however, looked for food constantly, which put them on the move. The Apache tribes utilized an array of foods, ranging from game animals to fruits, nuts, cactus, and rabbits, and they sometimes cultivated small crops. Some used corn to

make *tiswin* or *tulupai*, a weak alcoholic drink. Cultivation of crops in the arid Southwest is nothing recent. Even three thousand years ago, the Anasazi, the Hohokam, and Mogollon grew corn and squash, and evidence tells us that the Hohokam, at least, dug irrigation canals eight feet deep and thirty feet wide; some of the canals were twenty miles long.

Depending on where they lived, Great Basin tribes—Paiutes, Shoshones, Utes, and Washoes—consumed roots, bulbs, seeds, nuts (especially acorns and piñons), berries (chokecherries, service berries), grasses, cattails, ducks, rabbits, squirrels, antelope, beavers, deer, bison, elk, lizards, insects, grubs, and fish (salmon, sturgeon, perch, trout in the Snake and Columbia Rivers and tributaries), in addition to the larvae and pupae of brine shrimp.

Indigenous peoples in Mexico ate, and still use, the maguey slug or agave worm. Spaniards who landed on the shores of Cuba were introduced to cassava bread, a dish made with cassava (also known as manioc and tapioca) that contains cyanide and is poisonous until the roots are either boiled and mashed, or grated and mashed. Then the pulp was shaped and baked and could be dried for later use. Reportedly, the Spanish enjoyed this bread and the French were even more enthusiastic, often using cassava bread instead of wheat bread. Cassava, starchy and high in calories, is not particularly nutritious.[10]

Conquistadors reported their surprise at the neat and orderly town of Tenochtitlan and not least among their surprises was the food offered. Meals consisted of tortillas made from boiled dried maize that were then rolled into a paste and formed into a thin cake and cooked, then served with tomato or pepper sauce and beans. Tortillas could be used as a wrap for tomatoes, fish, or meat then rolled in a cornhusk and steamed. Another meal might consist of maize porridge and tamales, garnished with frogs, tadpoles, newts, white worms, or meat of iguanas, turkeys, or dogs.[11]

Incas in Peru had access to numerous foods from the water and land. The first explorers stated that they encountered animals such bears, deer, ducks, foxes, guanacos, guinea pigs, and llamas, in addition to vegetables such as avocados, beans, chili peppers, maize, manioc, peanuts, potatoes, squashes and sweet potatoes. Like Choctaws, the Peruvians also grew and dried potatoes (creating *chunu*) by leaving the harvest in the cold

air overnight then mashing out the moisture. This process was repeated for up to five days, until the potatoes had dried and were ready to be stored.[12]

Although tribes had hundreds of foods in their environments, they were not accessible at all times. The seasons, weather, drought, pestilence, and overhunting, intensive gathering, and overfishing all played a role in what was available. There were, of course, no grocery stories and people had to rely on themselves and each other for sustenance. As discussed in the next chapter, tribal members expended a tremendous amount of energy (calories) just to acquire enough energy and nutrients to survive.

# 3

# Traditional Activity

Until Indigenous people stopped cultivating crops, hunting, fishing, and gathering food, building their homes, and even performing general life-sustaining chores, they possessed little body fat. Harvesting, butchering, performing mundane activities such as washing clothes, building structures, finding firewood, and using feet as transportation burned thousands of calories.

And they looked fit. Many Euro-Americans have commented on the Natives' healthy appearances, including Oglethorpe Expedition member Edward Kimber, who said about the Natives in Florida in 1744: "As to their figure, 'tis generally of the largest size, well proportion'd, and robust, as you can imagine Persons nurs'd up in manly Exercises can be."[1] Vigorous outdoor living also made a person tough, or, as traveler Peter Kalm observed in 1750 as he made his way through Iroquois country:

> The natives are tremendously rugged. I saw them going about these days with only a shirt on and a weapon hanging over it, often without shoes though they had on their . . . stockings. The men wore no trousers, the women a short, thin skirt; neither of the sexes had anything on their heads. Thus they traveled at this time through the forests on their hunting trips, both in good and bad weather. They lay in this manner during cold and rainy nights in the damp and wet forests without having any other clothes to put under or on top of themselves at night than those they wore during the day.[2]

Numerous reports tell us about the physiques of historic Natives who ate unprocessed foods and who were consistently active. George Catlin commented about the tribes of the Upper Missouri:

> They are undoubtedly the finest looking, best equipped, and most beautifully costumed of any on the Continent. They live in a country well-stocked with buffaloes and wild horses, which furnish them an excellent and easy living; their atmosphere is pure, which produces good health and long life; and they are the most independent and the happiest races of Indians I have met with: they are all entirely in a state of primitive wildness, and consequently are picturesque and handsome, almost beyond description. . . . As far as my travels have yet led me into the Indian country, I have more than realized my former predictions that those Indians who could be found most entirely in a state of nature, with the least knowledge of civilized society, would be found to be the most cleanly in their persons, elegant in their dress and manners, and enjoying life to the greatest perfection.[3]

Europeans were surprised to see that the Indigenous people they encountered did not suffer from the same maladies they were used to seeing. William Wood, a Puritan in Massachusetts, stated that the "Aberginians or Indians Northward" were

> straight bodied, strongly composed, smooth-skinned, merry countenanced, of complexion something more swarthy than Spaniards, black haired, high foreheaded, black eyed, out-nosed, broad shouldered, brawny armed, long and slender handed, out breasted, small waisted, lank bellied, well thighed, flat kneed, handsome grown legs, and small feet . . . It may puzzle belief to conceive how such lusty bodies should have their rise and daily supportment from so slender a fostering, their houses being mean, their lodging as homely, commons scant, their drink water, and nature their best clothing. In them the old proverb may well be verified: *Natura paucis contenta*, for though this be their daily portion, they still are healthful and lusty.[4]

Comments made by Europeans about the physical beauty of Indigenous peoples abounds. Christopher Columbus remarked in his diary of October 12 and 13, 1492, about the peoples he encountered in Guanahani

(San Salvador): "They are very well formed, with handsome bodies and good faces." The next day he wrote, "All alike have very straight legs and no belly but are very well formed."[5]

James Adair noted the "exquisitely fine proportioned limbs" of "Chikkasah" women in the Southeast.[6] Peter Kalm noted that the Hurons "are a tall, robust people, well shaped, and of a copper color."[7] The Shawnees were similarly endowed, according to Nicholas Cresswell: "They are tall, manly, well-shaped men" and "their persons are tall and remarkably straight."[8]

"The men are in general tall, active, and well made, qualifications absolutely necessary for a race of hunters," is the way Lieutenant James M. Hadden described men he encountered in Canada in 1776. Of course women, who gather, garden, and dress the game, would also appear fit, but true to the nature of the male writers of that day, women were for the most part misunderstood in their narratives.[9] One hundred or so years later, white male writers were still inaccurately describing Native women, although we can see a kernel of truth every now and then. Sherry Smith's *A View from Officer's Row: Army Perceptions of Western Indians* is a compilation of observations by officers who encountered Native peoples. Although most of these men had derogatory things to say about Native women's physical appearances (usually because they were weathered from hard outdoor work), some admired their physical abilities, such as the two Comanche women who reportedly "lassoed several antelope" and the Yuma woman, whose body "was truly magnificent, and would have been a glory to a young sculptor," or the Native mothers who after child birth "gathered up their babies and healthily, vigorously went on their way."[10]

Observers were interested in how the Natives stayed fit. A French soldier wrote about unnamed tribes in the area of New York: "They claim that the lack of hair results from the abundance of their blood, which is purer because of their simple diet, and which produces fewer excess substances." He concurs with the powers of a "simple diet" by stating: "There is little doubt that their simple diet makes the savages swift runners."[11] Another traveler, Patrick M'Robert, made a similar observation in mid-1775 about tribes in that area: "These are a tall, noble, well-made people; many of them about six feet high, with long black

hair . . . their features good, especially the women. They live chiefly by hunting, fishing, and upon fruits."[12]

Children worked and played without the same distractions we have today. No television or video games, no Game Boys or movies to keep youngsters from staying consistently active. J. Carver, who wrote about his observations in the area in the 1760s, commented that upon seeing youngsters, "I saw about twenty naked young Indians, the most perfect in the shape, and by far the handsomest of any I had ever seen."[13]

Native people who gathered food (that is, they foraged with a basket or bag) were not always assured of success, which meant that they might have to range wide distances to search for food. Even if they were successful, the actual gathering and carrying of the food all day was tiring. Boyd Eaton and colleagues researched modern-day gatherers in Africa and Paraguay and found that when females (the primary gatherers) left for the day, they were often gone for up to twenty hours per week. These peoples usually found an average of fifteen different "staple" vegetables and perhaps up to sixty other foods, depending on the seasons.[14] People foraging in other parts of the world will find more or less to eat, depending on the environment they live in. The amount of rainfall, type of soil, nature of the terrain, and so on, all figure into the abundance of foods available.

Even when food is available, it takes a huge effort to gather it. Using primarily a stick to dig, gatherers would often dig all day long to collect roots and bulbs. Anyone who gardens knows the feeling of fatigue and backache after just an hour of pulling weeds and bending over to inspect crops. Gatherers did much inspecting, pulling, and digging; they also put the food in their bags and packs and carried the heavy haul around—in addition to carrying their infants and small children—often for miles in a variety of weather. It is estimated that the !Kung San women of South Africa walk up to twelve miles in a day of foraging, and this does not include their other daily activities.[15]

Hunters often have less success at finding food, but it still takes much effort to try to obtain a deer, elk, moose, or bison. Hunting could also be precarious. Hooves, horns, teeth, claws, and massive body weight could easily injure or kill an unwary hunter. Hunters today who own thousands of dollars' worth of rifles, designer clothing, and what seems

like hundreds of accessories know that even top-of-the-line equipment and endless patience often is not enough to garner you an animal. Many game animals catch on quickly when they are being stalked. Sometimes a certain area is hunted out and game is hard to find. Poachers take their toll. And despite its lack of physical requirements, quietly sitting in a blind all day is not easy for many. Historically, hunters used a variety of methods to kill animals: running buffalo and horses over a cliff and butchering them at the bottom; driving them into pits, marshes, or snow where they could be killed; throwing a spear or shooting arrows from a bow either on horseback or on foot.

Eaton posits that modern hunters in Australia and Venezuela spend twenty hours a week hunting (that is, stalking, waiting, killing, butchering, and bringing the meat home), with two days off, although game now is more sparse than historically. Some, like those in Paraguay, hunt everyday.[16] Exhausted hunters who have been forced to drag even a medium-sized deer through rough terrain know that killing, say, a buffalo, far from one's truck presents special challenges for getting the meat home. But for Natives who had no vehicles or even horses, it was necessary to bring the animal to camp themselves, as described by the Reverend John Heckewelder in 1788 about the Delawares: "It is very common to see a hunter come in with a whole deer on his back, fastened with a hoppis, a kind of band with which they carry loads."[17]

Eaton and his colleagues measured young men's skin-fold thickness (on the back of the upper arm) in several modern hunter-gatherer societies and discovered that they had much less body fat (4.6 mm) compared to non-hunter–gatherers in Africa and Australia (10 mm—over twice as much).[18] He also found that diabetes, hypertension, obesity, and atherosclerosis are unknown among the modern Kenyan Kikuyu, Broaya pastoralists, and "preindustrial" societies of Africa, Australia, and South America. He and his colleagues attribute this health to the wild plants (and subsequently, large amounts of roughage) and game (high in protein and polyunsaturated fats) that make up their diets. They eat little salt and saturated fat, drink only water, and consume honey as their only source of sugar.[19] If we were to combine their ways of eating and moving about with our advances in medicine, then we would be very healthy indeed.

**Games and Sports**

Games, play, and sports were an integral part of Indigenous life. Men and women played a variety of active sports, such as stickball, horseracing, numerous ball games, running (sprints and distance), snow snake (popular in the north where there is consistent snow; players slide or toss a pole called a "snake" along the frozen ground), hoop and pole (a pole or spear is thrown at a rolling wheel or hoop with the goal of both landing close to each other or the hoop on top of the pole), and swimming, as well as many sedentary games. Many games were played for religious reasons, not for profit, and there was a strong cultural connection between playing and a player's identity. A game might be played in hopes of healing the sick, ensuring a good harvest, to strengthen kinship ties, and out of respect for the Creator. Players might observe a strict diet for months before a game, in addition to praying and participating in ceremonial rituals. Games also were team oriented, not individual sports. When one gambled on a team or a person, the winnings were kept within the community, not taken solely by the winner as we see today. In addition, there were no superstars to admire since there was no commercialization (i.e., salaries and advertisements) associated with traditional Indigenous sports.[20]

The game many people today call lacrosse was known by many names among the tribes that played it (which is everywhere except in the Southwest). Many Natives claim that their tribe was the "inventor" of lacrosse, but regardless of who played it first, it is generally agreed that many tribes played it in the hope that crops would be successful and that the tribe would prosper. They also played for enjoyment.

The traditional game of *kapucha* (stickball) among Choctaws, which is sometimes known as *ishtaboli* (although this can also mean playing field), used to be played with extreme fervor and much ceremony; players and hundreds of spectators gathered at the field the day before in anticipation. George Catlin observed about the Choctaws and their level of activity:

> These people seem, even in their troubles, to be happy; and have, like all the other remnants of tribes, preserved with great tenacity

> their different games, which it would seem they are everlastingly practicing for want of other occupations or amusements in life. Whilst I was staying at the Choctaw agency in the midst of their nation, it seemed to be a sort of season of amusements, a kind of holiday when the whole tribe almost, were assembled around the establishment, and from day to day we were entertained with some games or feats that were exceedingly amusing: horse-racing, dancing, wrestling, foot-racing, and ball-playing, were amongst the most exciting; and of all the catalogue, the most beautiful, was decidedly that of ball-playing.[21]

One field Catlin saw was reportedly around four hundred yards long, and at each end of the field stood two poles set in the ground (the rules were apparently flexible in regard to the size of the field, so they varied from game to game). Historically, there often were hundreds of players on each side using *kabocca* (sticks) about three feet long with a pocket at one end, the pieces sewn together by sinew. The goal of each side was to hit or catch, then throw the leather ball with their sticks until the ball touched the other team's poles at the other end of the field. The players stripped to the waist and wore paint on their chests, sometimes with a horse, raccoon, or big-cat tail (perhaps a puma) and feathers on their heads, arms, and waists. After the men played, the women took the field and played just as aggressively. *Kapucha* was colorful and exciting and bets were eagerly made. The game also was fast-paced and violent. Broken arms, legs, noses, and dislocated kneecaps were common and the players wore their scars the rest of their lives. Some players even died from injuries sustained during the game.

Tribe members continued to play in significant numbers until the turn of the century, but by that time baseball and football had become popular. Chahtas still played *kapucha* after that, but in decreasing numbers and often for the purpose of entertaining spectators. Today, Chahtas in Mississippi and Oklahoma play, usually at annual tribal celebrations but also in tournaments such as the "World Series of Stickball" held each year at the annual Choctaw Indian Fair in Mississippi. Players use hand-carved hickory sticks (in some games players are allowed to use two sticks) that at one end have leather or deerskin thong pockets. The

*towa* (ball) is made from cloth tightly wrapped around a small stone or piece of wood with a leather thong over the cloth. But, like with other sports that are played periodically, such as weekend touch football and seasonal softball, if one only plays stickball on special occasions then the chance for injuries is high. Running and practicing specific *kapucha* skills on a regular basis can keep one fit.

Hundreds of Natives continue to play lacrosse today and not just to stay physically fit; the psychological rewards are also great. Cherokee scholar Jeff Corntassel, for example, regularly plays *a-ne-jo-di* (the name the Tsalagi have for the game) and describes it as follows:

> Stickball for Tsalagi is more of a ceremony than a game. Originally called the "little brother to war," it was sometimes used to resolve territorial disputes with the Creeks, but also promoted unity amongst our people. Stickball is still played before stompdances and during the Green Corn Ceremony to remind us of our obligations to community as *Ani-geel-aghi* or "keepers of the fire." I play a contemporary version of stickball (lacrosse) to honor our ancestors and to ready myself as a warrior.[22]

Running has always been a part of traditional Indigenous lifestyles, originally out of necessity. Prior to acquiring horses, Native people obviously had to rely on their feet to get them from one place to the other; but, on occasion, they had to get somewhere quickly. In 1680, for example, Pueblo messengers in today's New Mexico ran at least three hundred miles from pueblo to pueblo to tell them of the uprising against the abusive Spanish. Runners had to chase game and to carry messages. Natives had what Peter Nabokov calls "runner-systems" crisscrossing North and South America, the longest one being 2,500 miles from Ecuador to Chile.[23] The people who traversed these trails used only their feet. Runners often ran barefoot, with minimal food.

When I coached cross-country at a New Mexico high school in the early 1980s, most of the Native students in high school ran, and they did not run slowly. An average time for the cross-country girls was an eight-minute mile and the fastest Acoma boys won the state championship year after year. Although the students ran and participated in the races, it was

discouraging to learn that after races, after school and on weekends, the runners indulged in more than a little drinking and pot smoking. Still, they were active, and at least for the time they were in high school, their running was a focal point. The students were lean, and when I taught them about nutrition in my biology courses (my first two degrees are in biology and physics) they did sit up and pay attention. Sadly, I later learned that many of these talented runners stopped exercising after leaving high school and faded into the same legacy of poor health as other once-fit Natives.

# 4

# How Did We Arrive at This Unhealthy Situation?

Were there advantages to the lifestyles of historic Natives? After consuming all these unprocessed, nutritious foods and being physically active, one might think that tribes would be in superior physical condition. At one time, they were. Anthropologist Richard Steckel argues that Plains tribes (Blackfeet, Cheyenne, Comanche, and Sioux) in the late 1800s (after the introduction of horses but prior to being confined to reservations), were at one time the tallest people on earth. Their nomadic lifestyle kept them literally running from accumulated wastes and parasites; their varied diet that included game animals (buffalo, antelope, deer) and native plants provided all the nutrients they needed. An active lifestyle burned energy (calories) so being overweight was uncommon.[1]

George Catlin supports this in his observations about Crows and Blackfeet: "A Crow is known wherever he is met by his beautiful white dress, and his tall and elegant figure; the greater part of the men being six feet high. The Blackfeet on the other hand, are more of the Herculean make—about middling stature, with broad shoulders, and great expansion of chest."[2]

Catlin's comments about the Osages of the southern plains are as impressive:

> The Osages may justly be said to be the tallest race of men in North America, either of red or white skins; there being very few indeed of the men, at their full growth, who are less than six feet in stature, and very many of them six and a half, and others seven feet. They are at the same time well-proportioned in their limbs, and good looking; being rather narrow in the shoulders, and, like most all very tall people, a little inclined to stoop; not throwing the chest out, and the head and shoulders back, quite as much as the Crows and Mandans, and other tribes amongst which I have been familiar.

> Their movement is graceful and quick; and in war and the chase, I think they are equal to any of the tribes about them.[3]

One feature of the Natives that many observers traveling through America noticed immediately was their unstained and undamaged teeth. Polish politician Julian Ursyn Niemcewicz, for example, noted about the Natives of the New York area (possibly the Mohawks) in his extensive meanderings that, "their color appears to me exactly that of our Gypsies; straight black hair, hanging down, beautiful teeth, thoughtful countenance."[4]

There is reason for this. Physician S. Boyd Eaton and his colleagues, who compiled *The Paleolithic Prescription* (1988), discovered that humans who lived in the Late Paleolithic period rarely suffered from cavities, because of their unprocessed diet, as compared to at least 70% of people who lived in 1900 England, who ate much sugar and refined grains. Because of the dramatic rise in the use of sugarcane and sugar beets, by 1900, Boyd found that the incidence of tooth caries (decay) was thirty-five times as frequent as in prehistoric Britain.[5]

Other researchers became interested in the factors behind tooth decay. Weston A. Price was a Cleveland dentist who acted on his curiosity about the deteriorating health of his patients by traveling the world in the 1930s to study fourteen different comparatively "less modern" cultures: the Dinkas of Sudan, Gaelic fishermen and women of Outer Hebrides, Inuits of Alaska (he calls them Eskimos), the Maori of New Zealand, the Masai and other cattle-herding tribes of Africa, Swiss mountain villagers, in addition to Canadian tribespeople, the Seminoles of the Everglades, Amazonians, and the Aborigines of Australia. His studies revealed similarities across all of the cultures: almost no degenerative illness, almost no cavities, no cancer, and no tuberculosis. Interestingly, the Swiss people he studied had no cavities, yet they did not brush or floss their teeth. He makes an important point about cavity prevention: He discovered that this superior health and strong teeth was a direct result of diets that featured no processed foods. None of the foods consumed by the people he studied was touched by pesticides, additives, or chemicals; all diets included saturated fats from animal sources; no foods contained polyunsaturated oils; most ate a form of fermented food; animal organs

were consumed; grains were soaked, soured, or fermented. He found no low-fat diets and no vegetarians. Polynesians ate coconut oil. Alaskan tribes ate fat. Some (Africans, Alaskans, Scotts, and Swiss), in fact, ate very few vegetables. The Masai of Africa ate mostly meat and blood. All except the Alaskans ate insects and all ate seafood when they could. Price discovered that these people ate at least ten times as much vitamin A and D and at least four times as many other vitamins and minerals.[6]

If we were to eat like the people Price studies, we would be healthy, as long as we did not incorporate sugar, pies, cakes, French fries, bread, pizza, and so on into the mix. Of course, finding pesticide and additive-free meats and produce is challenging enough. It would be disastrous indeed for anyone to begin eating whole milk and fatty meats if they also indulged in processed foods. And this is precisely what Price found out. The Hawaiians that he studied ate fish, coconuts, sweet potatoes, and fresh fish. But he was able to document what happened as soon as they were exposed to processed foods: They quickly became obese and diabetic. After only one generation of eating processed and refined foods, Price found that many of the children of those who indulged in unhealthy eating (usually white bread, jams, jellies, canned fruits and vegetables, and no whole grains and milk products, when those were available) had children with narrower faces, crowded teeth, and "pinched nostrils." Children who were sent to "civilized" schools that offered processed, greasy, fatty, salty, and sugary foods returned with tooth decay and poor health.

It did not take long after contact with Europeans for the health of Natives to deteriorate. The effects of contact and subsequent colonization were numerous and complex and we cannot point to a single reason to explain our current predicament. As I have written elsewhere, the major problems Indigenous peoples face—and still continue to deal with because there is no such thing as "post colonial"—include the loss of land; the loss of population through war, sterilization, disease, policies of genocide, low birth rate, as a result of poor health, changing cultures, and removal-relocation; a dependency on material goods that result in competition between tribes; alcoholism and other forms of self-abuse; a change of environment that includes a loss of plants and animals; gender role change (the loss of respect for females' important social, political,

economic, and religious roles and the loss of men's hunting roles); factionalism within tribes or inter- and intra-tribal differences that lead to "culturalism" and "ethnocentrism"; a dilution and loss of cultural knowledge; dilution of "Indigenous blood" (there are more mixed bloods than full bloods today); depression and other mental problems associated with being disempowered; internalizing colonial ideologies that result in feeling confused about identity, feelings of inferiority, apathy, and helplessness; the continued subjugation of Natives because the ideology of Manifest Destiny is still in effect; a loss of intellectual rights (theft of knowledge by scholars and others for the purpose of personal gain); and continued monitoring of tribal governance policies and procedures by the federal government. Native voices are subsumed, dismissed, and devalued in politics, academia, the entertainment industry, and publishing.

One of the more obvious manifestations of colonization is the extreme change in health conditions (obesity, diabetes, heart disease, etc.) of Natives brought on by regressing from a diet of vegetables, fruits, game meats, and an active hunting-gathering-cultivating lifestyle to a daily routine that includes a diet of processed, fatty, and salty foods, and sitting still. We can see this everyday around us in our communities and, sadly, in our own homes.

Despite the many conveniences of "modern living," which in most respects have made our lives easier than our ancestors'—such as automobiles, telephones, medicines, electricity, refrigerators, pollution control, disease diagnosis, computers, and so on—in many ways we have clearly gone backward.[7] There are too many tempting choices that are not healthy. Many Natives have become comfortable in their sedentary lifestyles and poor eating habits. That is, of course, until the effects of this lifestyle begin killing them.

The long journey to bad health begins simultaneously in many places in history, although I would argue that psychological factors are a major element in determining health. Depression over loss of land, culture, and tribal members set up many Natives for vulnerability to the effects of alcohol that the French and British brought in large quantities to trade. Many Choctaws, for example, became addicted to alcohol that was brought by non-Native traders and the British who desired to trade

for deer hides. Natives in other parts of the country also succumbed to alcohol addiction, which not only affected their ability to move around physically and to think logically, but also impaired their bodies' ability to absorb nutrients.

Looking at the Choctaws again, after removal to Indian Territory in the first part of the 1830s, the tribe continued to cultivate corn, beans, squashes, and melons, as well as to raise pigs. With the decline of the deer hide trade, some Chahtas who were able turned to raising cattle. After the Civil War, Chahtas continued to grow corn and potatoes in large quantities, in addition to raising cattle, swine, and sheep.[8] But the influx of "American" foods and recipes began to take its toll on them and other Natives.

As animals were overhunted due to the deer-hide trade (such as in the Southeast), fur trade (in the north and in Canada), and for sport (most notably the bison), and as the waterways were diverted and polluted, and as tribes were confined to smaller areas, the people were unable to hunt, fish, gather, and plant as they once had. Instead of depending on themselves, Natives were forced to eat what they could forage or trade.

Some Indigenous children who attended boarding schools were fed an abundance of food, but often it was quite different from what they were accustomed to eating. Greasy, salty, sugary foods and those made with wheat and milk were not traditional tribal foods. Some schools had small gardens for the students to cultivate and often more affluent parents brought in vegetables, fruits, and game meats (such as at the Cherokee Female and Male Seminaries). This healthy portion of their diet was overshadowed, however, by an inordinate amount of white flour (for bread, pancakes, and gravy), sugar (for pies, syrup, and candy), and milk products (butter, cheese, and cream), in addition to coffee, tea, and lard.

In addition, any knowledge a child might have about medicinal foods, agricultural techniques, seed preservation, and blessings that corresponded to planting, growing, and harvesting were not supported nor reinforced. Children who did not know this information were denied access to those tribal members who could teach them. Generations of Indigenous children were therefore ignorant of how to properly plant and locate traditional foods. Unless there were family or tribal educa-

tional intervention, the children and grandchildren of boarding school students received no information abut this crucial aspect of their culture.

Choctaw students had a varied, but high-fat diet at the Choctaw Academy in Kentucky in 1828, in which the students consumed bacon, beef, mutton—baked and broiled—soup, corn bread, and wheat bread, "the best of" coffee, pies, apple dumplings, molasses, milk, shoat baked and broiled, beans, cabbage, potatoes, turnips, salads, peas, "hommony [sic] great and small," butter and rice.[9] The Spencer Academy (ten miles north of Doaksville) served meat (unspecified), sweet potatoes, molasses, peanuts, and hominy. Strawberries and raspberries grew around the school and were harvested, as was honey. The boys caught squirrels, fish, and other game, presumably deer. One student after the Civil War recalled that meals were repetitious and consisted of "beef, corn bread, milk, and a cup of coffee. Biscuits were given only on Sunday morning." Another student concurred, stating that he recalled most vividly prunes, rice (whether white or whole grain is unknown), sugar, coffee, vegetables, pork corn, wheat, beef, milk, and butter.[10]

This kind of boarding-school diet was common among the Choctaws and Cherokees. Young women at the Cherokee Female Seminary (located first in Park Hill, then rebuilt later in Tahlequah to the north of the Choctaw Nation) consumed an array of food, especially after the Civil War: fruits and vegetables (much of it from their parent's gardens), grains, meats, eggs, butter, oil, sugar, salt, buttermilk, and desserts. Students also were given spending money so they could buy foods in Tahlequah during field trips: bread, candy, sugar cookies, salted nuts, suckers, chewing gum, and tamales. The girls consumed so much fat and sugar that the administration became concerned about their weight gain and the number of stomachaches reported to the school's physician. The students also suffered many ailments normally associated with groups of people being confined in a relatively small area. Physicians treated their various problems with mercurial purgation, turpentine emulsion, quinine, Dover's Powder, and hot whiskey toddies.[11]

I recall that when writing an essay, "Medicine for the Rosebuds," that became part of the book, *Cultivating the Rosebuds: The Education of Women at the Cherokee Female Seminary, 1851–1909*, I made a comment that the women looked hefty in comparison to Natives of other tribes

during the same period. The professor of that class remarked, "Meow. That's catty. Take that out." I did, but my comment stemmed from a concern not only over the large amount of fat and carbohydrates these young women ate in comparison to caloric expenditure, but also because of the long list of physical ailments they suffered as a result of their diet, such as constipation, "bowel complaint," and hemorrhoids, in addition to headaches, "fevers," diarrhea, chills, tonsillitis, rheumatism, neuralgia, scrofula, jaundice, colic, ulcers, "skin eruptions," "La Grippe," and "summer complaint" (a condition that resulted from food not being properly cooled in the warm months). Further, the curricula at both the Male and Female Seminaries contained nothing about traditional Cherokee culture, including traditional food cultivation and preparation.

As were other Natives, many Choctaws were well aware of the material goods of white society. What white America ate, many of the Choctaws ate. By the late 1880s, Choctaws (especially those who could not afford to buy groceries) still consumed fruit and vegetables they cultivated themselves in addition to hogs and wild game. They also utilized coffee and bread made from wheat. Merchants stocked vegetables, and also butter, eggs, nuts, sugar, candy, cakes, molasses, and nuts.[12] While Choctaws had the ability to grow their food, other tribes, after being placed on reservations, suffered from malnutrition (because of inadequate food provided by the federal government) and a variety of ailments brought on from crowded living conditions and poor sanitary conditions, not to mention depression and frustration from being unable to live the way they did previously.

Navajos underwent similar changes. The tribe went from cultivating beans, chilies, corn, melons, and squash to heartily accepting the introduction of sheep by the early 1800s. Throughout the first half of that century, Navajos continued to consume fruits, vegetables, sheep, and game meats, but by the 1860s, the tribe was overwhelmed by the intrusive Americans, who proceeded to force them onto a reservation where farming was difficult. They could no longer rely on the land for sustenance and depended on near-inedible government rations, especially meat. Around this time, they began consuming lard, sugar, tea, and coffee. Through the 1930s and 1940s the tribespeople still ate fruits, vegetables, and meats, but by the 1950s their diet continued to change

when they became dependent on trading store foods such as canned milk, lard, peanut butter, sugar, wheat flour, and soda pop. While many families still raised their own vegetable foods, others continued to consume processed foods that had once been unknown to them.[13]

I distinctly recall my grandparents' garden in Muscogee. My Grandmother Eula was an original Choctaw enrollee who, like her Irish husband, Thomas, came from a family who liked to grow much of their food. "Big Tom and Nana" cultivated a huge garden with neat rows of corn, potatoes, pole beans, strawberries, squashes, and onions. Surrounding the garden was a wooden fence where black and red raspberries twined their way up the poles and grew until their stems were as big as small trees. Around the house were fruit trees of all kinds. I recall this garden with such fondness that it plays a major role in my novel *The Roads of My Relations* (Tucson: University of Arizona Press, 2000), in which I use family stories and scenarios to create eleven generations of one family; food is a huge part of those stories and each generation tries to re-create that garden planted by the matriarch, Billie. Just like other Natives who plant and lovingly care for their gardens, they can still run into great health problems if they also eat fatty, processed, and refined foods. Green beans, squash, and corn are a terrific lunch, but these foods are greatly diminished if cooked in butter, salt, and supplemented by greasy fried chicken.

More recently, anthropologist Sandra Faiman-Silva found that less-acculturated Choctaws in Oklahoma prefer to shop at stores they are familiar with, but the problem is that the prices are higher and the quality of food is poor (frozen foods are found to be outdated and spoiled and selection of items is scarce). In a survey, she found that many of these Choctaws were likely to be poor and bought food on credit with the stores where they had long-standing accounts. In addition to finding inadequate food at many of the stores, Choctaws also fall victim to the credit trap, in which the storeowners charge an exorbitant amount for them to use credit instead of cash.[14]

At the same time that diets were changing for Native peoples, so was the level of physical activity. After being confined to reservations, tribal members were not only too disheartened to "play," they also were too busy trying to survive on the poor food the government provided.

Hunting societies of the plains lost the opportunity to rigorously hunt and butcher game animals. Tribes who previously depended on foraging could not range about, either. The exception to the Natives who were unable to move about were some of the students at boarding schools who played on basketball, baseball, and football teams. But even then, their diets were not optimal and after they left the schools, many had no sports teams to play on. Unless they ran, or worked the family farm or ranch, their level of physical activity dropped.

So it is clear that Natives have been especially hard hit by the processed American diet. Diabetes, obesity, and all the ailments that result from them are commonplace among our people. Instead of turning to the foods that sustained our ancestors, we tend to prefer the foods and destructive lifestyles that are actually killing us. Why is that? Most of the answers are obvious.

**Using the Wrong Terminology**

Most Natives want to eat "traditionally," but the term *traditional* varies from person to person. Some Indians like to call their food "traditional" without knowing what that term means. Many Natives, for example, eat a tremendous amount of "fry bread" (or more accurately, fried bread), arguing that "Indian Tacos" are "traditional," without knowing that wheat, in addition to milk products, beef, pork, goat, sheep, chicken, eggs and many vegetables, are not indigenous to the New World. Indeed, it is not correct to call them, or dishes made from them, "traditional" foods.

**Death by Fried Bread**

As one friend commented about this project, "I am so glad to shout from the rooftops that 'fry bread' is not 'our' Indigenous food and I hate that we have allowed it a place of reverence in our communities. I like a piece of fry bread with my stew every now and then, but it has taken over." Why have so many Natives latched onto such a deadly food that offers little except for a few nutrients and a plateful of fat? Anyone who has tried to convince a fried bread or "Indian tacos" fan that these are not traditional foods knows how close to impossible it is to change their minds.

Fried-bread stands can be found across the country at powwows and county fairs. "Indian tacos" or, as they are called in the Southwest, "Navajo tacos" and "Hopi tacos"—fried bread topped with ground spiced meat (usually beef) or beans, cheese, lettuce, and sometimes sour cream, are now on the menus of many restaurants. Although fried bread has been around tribal communities (and Mexican communities, who make the sopaipillas that we in America see served with honey in Mexican restaurants) for centuries, it cannot be considered "traditional" because wheat was brought from the Old World to the New in 1602 and was first grown off the coast of Massachusetts. Wheat is thought to have originated in southwestern Asia. Today, the production of wheat is behind only rice and corn in terms of worldwide production.[15]

Generally speaking (because there is some variation in recipes), fried bread is made with flour, baking powder, a bit of salt, water, and vegetable shortening or lard. The water and dry ingredients are mixed in a bowl until it forms a sticky dough. At this point, pieces are taken off and can be formed into small pieces, the size of an egg, larger pieces, like a brick, or maybe even larger pieces the size of plates. Then the pieces are placed in hot shortening or grease until golden brown. Fried bread can be eaten alone or as part of a meal, or can be a dessert topped with butter, cinnamon, and sugar, or perhaps honey. Fried bread is tempting to most people because of the fat content (comprised of grease, lard, or shortening), and therein lies the problem. Not only is fried bread high in fat, it is also highly caloric.[16] A person who regularly eats fried bread without exercising is probably carrying excess weight. If that person does not consume foods that contribute to his or her daily nutrition requirements, they will be unhealthy, overweight, and at risk for diabetes and many other problems associated with being overweight.

**Ruining a Good Thing**

One can eat some truly traditional foods and still not become healthy because at the same time that a person might eat a nutritious plate of steamed corn, beans, and squash from their gardens, they might then supplement those healthy foods with fatty meat, sugary drinks, desserts, and greasy sides such as French fries or fatty, mayonnaise-laden macaroni or potato salad. Those same healthy servings of corn, squash,

beans, potatoes, game meats and other New World foods are no longer nutritious if they are improperly prepared with grease, lard, butter, and heavy doses of salt.

**Information Not Reaching Those Who Need It**

Tribes have started their own healthy lifestyle programs and try to educate their members, but they are not always successful in reaching the ones who need the assistance most. Unless members are also self-educated by reading books, magazine articles, and news programs that discuss the correlation between diet and exercise, then more than a few Natives will fall through the cracks in the attempt to correct the health problems we are facing.

**Not Enough Native Nutritionists**

If more Native people were nutritionists, then Native people would be more inclined to listen to health advice. Many tribespeople may be suspicious of outsiders telling them what to eat and how to exercise. If the information comes from another Native person or trusted non-Native ally, however, then they are much more likely to pay attention. It is up to us to spread the word about healthy living and the best ones to talk about being fit and strong are those who actually live that lifestyle.

**We Are Convinced We Deserve This, or the Boarding School Syndrome**

Many Natives may have given up in their attempts to retain their culture (and therefore their pride) and have concluded that an "Americanized" diet is the best diet. Some, on the other hand, never think about what they eat at all. These attitudes stem directly from what I call the "Boarding School Syndrome" (BSS), a psychological problem that plagues thousands of Natives. Symptoms include apathy toward racism, stereotyping, and other forms of discrimination. Sufferers feel no desire to fight against prejudice or the colonial ideology that Native culture is inferior to white, Christianized, "civilized" culture (as defined by those who believe they are superior). The BSS is a result of generations of young Natives being forced to endure racist teachings at boarding schools that told the students their languages, religions, clothing, hairstyles, world views, and foods were inferior. Students were dressed like Americans

and were fed Americanized, salty, greasy, fatty, and wheat-laden dishes. These teachings were then brought back to their families and what we see today are Natives who make minimal or no effort to regain their cultures. Eating the foods this society presents without questioning the contents of those dishes and the damaging or healthful benefits of those foods is one of the manifestations of the BSS.[17] One huge step we can take to regain our culture and pride is to grow, cultivate, and prepare our own foods that our ancestors ate instead of spending money at fast-food restaurants, such as McDonald's, that are, as British critic Dave Morris describes them, "powerful multinationals that shift capital across borders with few qualms, that feel no allegiance to any nation, no loyalty to any group of farmers, workers or consumers."[18] And even if we cannot grow gardens or hunt antelope, bison, and elk, we can monitor our diets, make informed choices at the market and include exercise as part of our daily routines.

**Racist Literature**

Another way that Natives have been told that the Old World diet is superior to their traditional one is reflected in a 1987 American Historical Association pamphlet "The Columbian Voyages, the Columbian Exchange, and Their Historians," written by Alfred W. Crosby, who ignores the astounding array of foods available in the New World to focus on the contributions of the Old World, making the claim that "New World people derive all but a fraction of their animal protein, and almost all their wool and leather from Old World animals" (17). While this may be true for some Natives who have adopted a processed, Americanized diet, many Natives I know prefer to eat New World game meats (elk, deer, antelope, and turkeys, in addition to bison—both hunted and domesticated), fish (salmon, cod, bass, trout) and New World fauna (corn, beans, squash, peppers, potatoes, tomatoes) on a daily basis. W. W. Newcomb asserts his feelings of anthropological superiority in his *The Indians of Texas* (1961) by calling Comanches "blood thirsty" and the Karankawas "savage," before he proceeds to denigrate the belief held by some tribes that raw liver is acceptable to eat by stating that "this does not necessarily mean that human races are exactly equal in inherent intellectual capabilities." He further elaborates on the virtue of Tonkawa pemmican

(which was made by pounding buffalo or venison and mixing it with pecan meal and placing the mix into a length of animal intestine) by stating: "Pemmican provided a rich and nutritious food for the skulking warrior or weary traveler, and must have served as the Indian equivalent for a can of Spam."[19] If one is a Native bent on finding accounts of his or her tribe's past traditions, the reader would do well to steel oneself for racist accounts.

**The "Habit" Excuse**

Many Native people say that they cannot change their diets because they were raised eating tortillas, fried bread, and fried potatoes. Their parents and grandparents cooked with lard, grease, and sugar, and they ate large amounts of food. Many people say they feel pressure to continue that tradition, especially during holidays, visits, ceremonies, and so on.

**The "Poverty" Excuse**

We constantly fight our willpower and often look for any reason not to eat the way we should. For example, an article in May 3, 2004, of USA *Today* is headlined with the question, "Can Only the Rich Be Thin?" It argues that the Atkins Diet and other untested "low-carb" diets feature meats (beef and salmon are prominent examples) that are too expensive for many Americans to afford. On the one hand, this can be true, because the cheapest foods are made with flour, corn syrup, and fat. On the other hand, there are plenty of foods that students and those with a modest income can afford: chicken and turkey instead of sirloin, deep green leafy vegetables instead of pale green lettuce, or frozen vegetables that are "store brand," instead of pricy ones in tiny plastic containers. While proponents of the South Beach and Atkins Diets may be able to find protein and happiness in fillet mignon and shark, there is every reason to feel pride in eating our indigenous pinto beans, corn bread, and green chilies! And, walking, jumping rope, running, soccer, shooting hoops, bicycling, and throwing a Frisbee are activities one can do without joining a health club. The idea that one must be wealthy to recover good health is unfounded and should not discourage anyone who aspires to become fit.

**It Smells Good**

There are many reasons why we continue to be tempted by foods that we know are bad for us. Taste is the main factor. Sweet, salty, greasy, and sour (think of kids eating huge, sodium-laden dill pickles that are sold at powwows, sporting events, and even school functions) flavors are favorites. In *Fast Food Nation*, Eric Schlosser discusses what goes into making a food—such as milkshakes, burgers, or French fries—taste good (if the list of artificial ingredients that go into a milkshake at most fast-food restaurants doesn't make you queasy, then perhaps nothing will.)[20] Even if the food you eat from a fast food joint would smell rather rank in it's truly natural state, a dose of food additive that makes it smell good will ensure that you never know the difference. How ironic that many of the foods that Natives now prefer are artificially colored and "odorized," when the natural foods that we could be eating are underutilized. It is a sorry state of affairs indeed if a person thinks that French fries smell and taste better than grilled salmon, or a pot full of elk and vegetables spiced with garlic and peppers, or venison steaks smothered in garlic and tomatoes.

**Hidden Death Trap: Trans Fat**

Trans fat lurks in thousands of foods, but manufacturers are not required by law to indicate on their list of product ingredients whether it contains trans fat. In fact, the FDA (Food and Drug Administration) will not require this ingredient to be listed until 2006. Most readers are aware that there are different kinds of fats: monounsaturated fat (in olives, olive oil, canola oil, peanut oil, cashews, almonds, peanuts, and most other nuts, and avocados), polyunsaturated fat (in corn, soybean, safflower, and cottonseed oils, and fish), saturated fat (mainly animal fats: meat, seafood, whole-milk dairy products, such as cheese, milk, and ice cream, poultry skin, and egg yolks; and in some plant foods: coconut and coconut oil, palm oil, and palm kernel oil), and the bad one—trans fat. If you see the words "hydrogenated" or "partially hydrogenated" in the ingredients, then the product contains trans fat. This ingredient helps to increase the shelf life of food, but it has disastrous effects on our bodies.

The first two are "good" fats (although that does not mean you can eat all you want of them). Saturated fat can be a "bad" fat, but luckily, when you eat too much of it your body converts it to monounsaturated fat (a good fat). Trans fats from partially hydrogenated vegetable oils are a serious problem. Trans fats cause a lowering of your high-density lipoprotein (HDL), or "good" cholesterol, and an increase in low-density lipoprotein (LDL), or "bad" cholesterol. This problem is so pervasive that a nonprofit organization, Ban Trans Fat, sued Kraft-Nabisco because not only do Oreo Cookies contain trans fat, the company marketed its cookies specifically to young children and failed to list trans fat as an ingredient. The same nonprofit group also sued McDonald's after the restaurant chain promised to reduce the amount of trans fat in its food but instead quietly withdrew that promise and did nothing.[21]

Trans fat lurks in most margarines, vegetable shortening, partially hydrogenated vegetable oil, deep-fried chips, many fast foods, and most commercial baked goods. This list can include waffles, "chicken tenders," fish sticks, cheese-and-cracker sandwiches, dry noodles, snack mixes, pizza, biscuits, tater tots, margarine, nondairy creamers, popcorn, and apple pie. The list is a long, scary one. Unfortunately, trans fat is not listed as an ingredient on most food labels, so when you go out to dinner or to a donut place, you must ask them for the ingredients. Ban Trans Fat even has a T-shirt available for those who feel strongly about being duped by manufacturers that reads: "Don't Partially Hydrogenate Me."

**Metabolism**

Our metabolism slows as we grow older, which means that adults on the average gain two pounds per year. And this goes for those of us who are careful about our intake. To make the situation more difficult, in order to make foods taste better, dishes are cooked with cream, fat, lard, grease, salt, and sugar. When we are tired or stressed, it is easier to buy a bag of corn chips than it is to prepare *banaha* or *tamfula*. It is challenging even to walk into Starbucks for a cup of coffee because of the amazing array of goodies that one can add to a ten-calorie serving of joe: 130 calories for whipped cream; 270 calories for whole milk; mocha caramel at 25 a pump, and so on. The Java Chip Frappuccino contains

650 calories and more grams of fat than a McDonald's Big Mac. Without question, the more choices we have and the easier it is to find something to eat when we are hungry, the more we tend to eat and we eat what we want instead of what we should. As the years go by, our health problems are compounded by the reality of bad food choices, slower metabolism, loss of enthusiasm to stay active, and the fact that it is easy to become discouraged as the scale shows added pounds.

**Unhealthy Choices at School**

Things have changed for schoolchildren, but have not improved much. Data collected by the SHPPS (School Health Policies and Programs Study) for 2000 (at http://www.cdc.gov/HealthyYouth/shpps/index.htm) reported that many foods available to students in school are high in fat, sodium, and added sugars. For example, 62.8% of all milk ordered by schools in a typical week is high in fat (whole or 2% milk). In addition, 43% of elementary schools, 73.9% of middle and junior high schools, and 98.2% of senior high schools have either a vending machine or a school store, canteen, or snack bar where students can purchase food or beverages—most commonly soft drinks, sports drinks, or fruit juices that are not 100% juice, salty snacks, and cookies and other baked goods that are not low in fat.

**I'm Too Tired**

*Parade Magazine* (that Sunday newspaper insert) recently revealed that of over two thousand Americans interviewed, nine of ten buy convenience foods (microwavable sides to complete meals), which is 25% more than just two years ago. Because our society is moving faster than ever, those who responded said they buy such foods because of the quick time it takes to prepare them, they are too tired to cook, because they believe the convenience foods taste good, and because they believe the convenience foods are nutritious (the reality is that you do have to pick and choose carefully). Nine out of ten adults eat dessert at least once a week. The favorite snack is chips (almost seventeen pounds of potato chips per person, per year), followed by popcorn, fruits, cookies, and ice cream.[22]

**Commodities**

One way Natives are succumbing to a host of physical problems is because of commodities that are distributed to tribes for those members who live in a certain proximity to their Nations. "Commods" are cheap foods, high in carbohydrates and trans fats. Natives who take advantage of this program can choose among some eighty different foods, but if they choose the white flour, lard, cheese, sugared, and salty foods, how is this benefiting them? Unless they are educated and pick fruits, vegetables, and meats that are low in fat, sugar, and salt (or can be rinsed and drained), fresh produce, or can supplement the government foods with grocery-bought fresh vegetables, they are well on their way to becoming ill.[23]

**Not So Healthy Protein and Energy Bars**

Foods that are dense with nutrients, such as "protein" or "energy" bars, may also be dense with calories. Some eaters believe such foods are acceptable and they have license to consume whatever and however much they want. But it is not just "junk food"–sugars that can cause diabetes. Foods with high carbohydrate count are converted into glucose and that includes fruits and grains. Many calorie-burning, low-body-fat athletes have found out the hard way that their diets of large amounts of spaghetti, fruits, cheeseburgers, energy bars, fast food, and beer has set them up for diabetes.

**It Is Not Convenient to Eat Unprocessed Foods**

These days, with thousands of unhealthy choices at every turn, it takes time and energy to locate healthy foods. But once you find them, there are no more excuses. Look at the photographs in Price's *Nutrition and Physical Degeneration* in addition to visiting your tribal health center to witness the amount of sickness around us and you will be hard-pressed to come up with reasons not to take care of yourself and your family. Learn to read the lists of nutrients and additive ingredients on labels. Everyone is pressed for time these days, but in order to make intelligent choices, you must plan to spend some time in the stores.

# 5

# What Are We Ingesting?

The study of how Native diets changed from meals of fresh fruits, vegetables, and game meats to poor diets of processed foods can assist us in understanding why Natives suffer from an epidemic of diabetes, obesity, and all the problems associated with these diseases. Many people would like to begin a healthy lifestyle, but are not certain how to proceed. Keeping a diary of what you eat for one week is a good way to understand how healthy or unhealthy your diet is. Use a nutrition book to make a chart so you can determine how many calories and how many nutrients each item provides you. A basic nutrition book will also help you understand the caloric value of foods in addition to the functions of vitamins A, B, C, D, E, F, K, biotin, folic acid (or folate), PABA, calcium, magnesium, sodium, potassium, and other supplements. A one-week diet chart is available for you to use in the appendix to this book. Fill it out, using as a guide the sample diet for one day shown in Table 1 in this chapter.

In addition, it is a good idea to document how much exercise you get per day and calculate how many calories you use per exercise. This is an intensive project and can be confusing, but it provides a reality check about the kinds of nutrients you are getting in your diet as well as how many calories you are ingesting versus how many you expend. I did this for one month in high school—over thirty years ago—and I have never forgotten how important it is to keep close tabs on what you eat and drink. If you have ever considered your diet or have calculated what you are eating and drinking, then you know that it is daunting and humbling (not to mention scary). However, we must take responsibility for our health and for the health of our children and those who cannot make reasonable choices for themselves.

Measuring our intake of calories, protein, carbohydrates, sodium, fat, fiber, and cholesterol is only part of the analysis we should consider.

In order to be healthy, we must also consider how many vitamins and minerals our foods contain. For example, according to the chart I keep, I eat a lot vegetables that may not contribute significantly to my protein or caloric intake, but a half cup of cooked spinach, for example, provides a full day's supply of vitamin A and more than 25% of the daily requirement of folic acid. It also contains 419 mg of potassium in addition to vitamin C, riboflavin, and vitamin $B_6$. Carrot juice provides me with 700% of my daily need for vitamin A, in addition to vitamin C, calcium, and iron. See the discussion of vitamins and minerals below for information about getting enough of what you need. The following list provides some useful terms and definitions.

1. CALORIES A food calorie is the amount of energy needed to change the temperature of one kilogram of liquid water (a volume of one liter) by one degree centigrade. Calories are essential for all body functions. Too many calories results in fat storage. Too few calories can cause one to lose fat; too much fat loss can be deadly.
2. PROTEIN Protein is essential for growth and development. Protein deficiency results in mental and physical inefficiency. The U.S. government recommends consuming .8 grams of protein each day per 2.2 pounds of body weight. However, you cannot build muscle simply by consuming excess protein. A balanced diet combined with strength training is the only way to build muscle effectively. Meat is not the only source of protein, either; it is also available from grains, beans, and vegetables.
3. CARBOHYDRATES Carbohydrates are our sources of fuel and are necessary for normal body functioning. They are found in fruits, vegetables, grains, nuts, and seeds. It is recommended that 50 to 55% of our daily calories should be from complex, low-glycemic-index carbohydrates that take longer to digest and cause a slower rise in blood sugar. Do not go "no carb"; we all need at least 130 grams of carbohydrates per day. Carbohydrates are discussed in chapters 3 and 5.
4. SODIUM Adults need no more than 240 to 300 mg of sodium in their daily diet, depending on activity level. Sodium is needed for

maintaining fluid balance and transporting nutrients across cell membranes, and is found in a myriad of processed foods. Most people ingest too much sodium and should be more aware of healthy limits to salt intake.

5. **FAT** Fat should be limited to less than 30% of daily intake (less than 90 grams per day). There are four types of fat, as discussed in chapter 4, and not all of them are healthy for you. Go to the American Heart Association's homepage and type in "fat" in the search block: http://www.americanheart.org/presenter.jhtml?identifier=1200000.
6. **CHOLESTEROL** Cholesterol is a necessary component of bile production, sex hormones, the fat-soluble vitamin D group, and nerve sheaths. Diet accounts for 20% of the body's cholesterol (which can be found in animal products), and the liver produces 80%. Exercise, genetics, and gender all play a role in how the body processes cholesterol. All cholesterol attaches itself to lipid-carrying proteins: LDLs, or low-density lipoproteins, carry two-thirds of it and tend to deposit the cholesterol in artery walls, while HDLs (high-density lipoproteins) take cholesterol from the artery walls and deliver it to the liver to be metabolized. Foods that raise cholesterol include vegetable shortening and hard margarine, cookies, cakes, pastries, whole-fat dairy products, cream cheese, marbled beef, bacon, hamburgers, salamis, cold cuts, and so on. Foods that may lower cholesterol include whole-wheat breads and grains, nonhydrogenated oils, fruits, vegetables, nuts, and seeds. A test can determine if there is too much cholesterol in your system. If there is too much, you may need to limit fat intake to 20% or less of total calories and limit saturated fats to 7%. See http://www.americanheart.org/presenter.jhtml?identifier=4488 for detailed information about cholesterol.
7. **FIBER** We are supposed to have about 30 grams of fiber per day. Fiber can assist in preventing colon cancer and in lowering blood cholesterol levels. Not enough fiber results in digestive disorders such as constipation and diverticulosis. Too much fiber can cause bloating and abdominal pain and can interfere with the absorption of some minerals. Fiber is found in foods such as

whole grains, apples, lentils, legumes, oatmeal, flax, strawberries, broccoli, carrots, and peas.

**Some Essential Vitamins and Minerals**

VITAMIN A Necessary for proper growth, eyesight, resistance to infections, and aids in the secretion of gastric juices. It is often measured in United States Pharmacopeia (USP) units or International Units (IU). Men need 1,000 mcg per day and women need 800 mcg. Depletion results in eye inflammations, night blindness, frequent colds, rough and dry skin, and other skin disorders. Too much will result in headaches, fatigue, appetite loss, blurred vision, cracked skin, hair loss, and birth defects, if taken before and during pregnancy. Vitamin A can be found in green and yellow vegetables (especially beet greens, kale, dandelion, and mustard greens), melon, yams, tomatoes, dairy products, and fish liver oils.[1]

VITAMIN $B_1$ Necessary for protein metabolism. It protects heart muscle, prevents constipation, promotes appetite, and stimulates the nervous system. Men need about 1.2 mg of vitamin $B_1$ per day and women need about 1.1 mg. Depletion contributes to edema, poor circulation, weakness, constipation, and depression. It is found in Brewer's yeast, seeds, and nuts, soybeans, milk products, beets, potatoes, leafy vegetables, wheat germ, and bran.

VITAMIN $B_2$ Burns starches and sugars and assists in adrenal functions. Men need approximately 1.3 mg and women need 1.1 mg of this vitamin per day. Depletion results in loss of appetite. Too much can interfere with cancer chemotherapy. It is found in Brewer's yeast, almonds, sunflower seeds, leafy vegetables, milk products, and mushrooms.

VITAMIN $B_3$ Necessary for healthy eyes (may prevent cataracts), hair, and skin, depletion of vitamin $B_3$ can result in bloodshot eyes, mouth inflammations, lip cracks, and dull hair. This vitamin may be found in Brewer's yeast, wheat germ, nuts, sunflower seeds, green vegetables, and liver.

VITAMIN $B_6$ Necessary for food assimilation, this vitamin also contributes to antibody production, prevents skin disorders, con-

tributes to protection against diabetes and heart disease, relieves premenstrual edema (swelling), regulates the balance between sodium and potassium, and is required for absorption of vitamin $B_{12}$ and for producing hydrochloric acid. Males aged 1-50 need 1.3 mg daily; males 51 and older need 1.7 mg. Females aged 19–50 need 1.3 mg daily, and women over 51 need 1.5 mg. Depletion results in anemia, depression, headaches, irritability, kidney stones, swelling. Too much of this vitamin can produce nerve deterioration. It is found in Brewer's yeast, bananas, avocados, cantaloupe, cabbage, liver, green leafy vegetables, green peppers, peanuts, carrots, pecans, sunflower seeds, wheat germ, walnuts, and tuna.

**VITAMIN $B_{12}$** Necessary for blood and nervous system formation, and is found in all animal products. Adults need 2.4 mcg per day. Depletion results in anemia, nerve weakness, and sore tongue.

**VITAMIN C** Necessary for healthy gums, wound healing, resistance to infection, and assists in absorption of iron. Adults need 60 mg daily. Depletion results in scurvy and bleeding gums. Excess vitamin C results in diarrhea, kidney stones, urinary tract irritations, bone loss, and an increase in iron (buildup). This vitamin can be found in citrus fruits, tomatoes, cantaloupes, broccoli, green peppers, asparagus, and strawberries.

**BIOTIN** Necessary for metabolism of fats and proteins, healthy hair, and hair growth. Adults need 30 mcg daily. Depletion can result in eczema, dandruff, hair loss, fatigue, depression, and hallucinations. Found in Brewer's yeast, brown rice, liver, kidneys, and soybeans.

**VITAMIN D** Necessary for preventing rickets, for the proper formation of teeth and bones, and the absorption of calcium and phosphorus. Vitamin D is also needed for the proper function of the thyroid and parathyroid glands. Adults aged 19–51 need 200 IU or 5 mcg daily. Adults aged 51–70 need 400 IU or 10 mcg per day. Adults over 70 need 600 IU or 15 mcg per day. Depletion can result in rickets, tooth decay, osteoporosis, and retarded growth in children. It is found in mushrooms, sprouts, milk products, cod liver oil, and its production is stimulated by exposure to sunshine.

**VITAMIN E** Necessary for blood oxygenation, dilation of blood

vessels, and preventing scar tissue. This vitamin is an anti-coagulant and anti-thrombin, provides protection from pollutants, and is used in the treatment of asthma, emphysema, heart disease, hypoglycemia, reproductive disorders, and varicose veins. Men need 14.9 IU and women need 11.92 IU per day. Depletion results in acceleration of heart disease, strokes, sexual disorders, miscarriages, and the degeneration of red blood cells. Too much vitamin E results in excessive bleeding. Found in vegetable oils, raw and sprouted seeds, nuts, grains, and leafy green vegetables.

**BIOFLAVONOIDS** Strengthens the capillary walls, prevents hemorrhaging and coagulation, and helps protect vitamin C from oxidation. Depletion can result in arteriosclerosis, eczema, hemorrhoids, hypertension, psoriasis, and varicose veins. Bioflavonoids are found in fruits and vegetables, especially citrus fruits, green peppers, grapes, apricots, strawberries, and cherries.

**CALCIUM** Needed for developing bones and teeth, and assists in muscle contraction and blood clotting. Adults aged 19–50 need 1,000 mg daily. Adults over 51 should take 1,200 mg per day. Depletion results in osteoporosis. Calcium is found in dairy products, green leafy vegetables, tofu, fish, and fish oils.

**COPPER** Necessary for iron metabolism, nervous system and bone health, and hair, eye, and skin pigmentation. Adults need 900 mcg daily. Copper can be found in seafood, nuts, and seeds.

**IRON** Necessary for red blood cell formation and function. For adults aged 19–50, men need 8–10 mg of iron daily and women need 15–18 mg. Adults over 51 should have about 8 mg daily. Depletion can result in anemia. Iron is found in green leafy vegetables, meats, nuts, seeds, enriched breads, and cereals.

**FOLIC ACID** Crucial to the formation of red blood cells and the production of RNA and DNA, which are responsible for the transfer of genetic information at the cellular level, and aids in the production of protein. Adults need 400 mcg daily. A deficiency in folic acid causes a form of anemia. It is found in green leafy vegetables, sunflower seeds, meats, and orange juice.

**IODINE** Essential for normal thyroid functioning, growth, de-

velopment, and metabolism. Adults need 150 mcg daily. Found in iodized salt and dairy products.

PABA OR PARA-AMINOBENZOIC ACID Promotes metabolism and fights aging (skin wrinkles and graying hair), and soothes burns and skin disorders. Deficiency can result in fatigue, gray hair, anemia, and infertility. PABA is found in Brewer's yeast, whole grains, liver, milk, and eggs.

MAGNESIUM Needed, along with calcium, to maintain strong bones (density). Depletion can result in nervousness, tension, and fatigue. Found in deep green leafy vegetables, tofu, nuts, and seeds.

MANGANESE Needed for development of skeletal and connective tissues and assists in metabolizing carbohydrates. Adults need 2 to 5 mg daily. Manganese can be found in whole grains, cereals, nuts, legumes, and egg yolks.

PANTOTHENIC/ACID Part of the B complex of vitamins and is essential for cell growth. It is useful as an anti-stressor, and helps to keep away infection and premature aging. Adults need 5 mg daily. Depletion can result in fatigue, infection, gray hair, depression, stress, constipation, weakness, insomnia, cramps, and low blood pressure. Found in Brewer's yeast, wheat germ and bran, whole grains, green vegetables, beans, peanuts, mushrooms, eggs, and liver.

PHOSPHORUS Assists in energy metabolism, maintaining strong bones and teeth, and enhances the use of other nutrients. Adults over the age of 19 need approximately 700 mcg daily. Found in dairy products, poultry, eggs, whole grains, nuts, seeds, and fish.

POTASSIUM Works with sodium to maintain body fluid balance and may assist in lowering blood pressure. Potassium is found in citrus fruits, legumes, avocados, and bananas. Athletes and others working up a sweat through physical exertion need to pay attention to their sodium and potassium intake to prevent dehydration and cramps. Adults need approximately 2,000 mg per day.

SELENIUM Necessary for the use of iodine in thyroid function and for growth and development, selenium also contributes to proper immune functioning, cancer prevention, and the pro-

tection of membranes from oxidation. Men need 70 mcg and women need 55 mcg daily. Selenium is found in fish, whole grains, meats, and eggs.

**WATER** Essential for digestion and absorption of foods; it rids the body of wastes, helps cool the body, and delivers nutrients and oxygen to cells. Water also acts as an appetite suppressant. Adults need eight to ten cups of water per day, in addition to the four cups one ingests from foods throughout the day. Those in hot climates need to drink more fluids.

**ZINC** An essential component of over 100 enzymes that are involved with wound healing, digestion, metabolism, and reproduction. Men need 11–15 mg and women need 8–12 mg per day. Found in eggs, meats, liver, fish, seafood, and whole grains.

# Sample Diet for One Day

**Calories Taken In**

| Food | Calories | Protein[a] | Carbohydrates[a] | Sodium[b] | Fat[a] | Cholesterol[b] | Fiber[a] |
|---|---|---|---|---|---|---|---|
| Breakfast: | | | | | | | |
| cooking spray | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 eggs | 150 | 12 | 2 | 280 | 5 | 424 | 0 |
| ½ c mushrooms | 9 | 1 | 1 | 1 | .1 | 0 | 0 |
| ½ c red pepper | 20 | 1 | 5 | 3 | .3 | 0 | 3 |
| 2 green chilies | 36 | 2 | 8 | 3 | .1 | 0 | 1 |
| 2 corn tortillas | 120 | 2 | 25 | 35 | .5 | 0 | 2 |
| 4 T salsa | 16 | 0 | 2 | 320 | .1 | 0 | 0 |
| 1 c carrot juice | 70 | 2 | 15 | 16 | 0 | 0 | 1 |
| 1 c decaf coffee | 4 | 0 | 1 | 4 | 0 | 0 | 0 |
| 1 T skim milk | 5 | .45 | .65 | 6.5 | 0 | 0 | 0 |
| 1 pack herb sweetener | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lunch: | | | | | | | |
| ½ turkey sandwich: | | | | | | | |
| 1 slice wheat bread | 60 | 3 | 11 | 125 | 1 | 0 | 2 |
| 1 slice turkey breast | 40 | 8 | 0 | 24 | .5 | 17 | 0 |
| 1 spinach leaf | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| mustard/no salt | 14 | 1 | 1 | 10 | 1 | 0 | 0 |
| 10 crackers | 240 | 6 | 40 | 280 | 9 | 0 | 6 |
| Dinner: | | | | | | | |
| ½ grilled zucchini | 22 | 2 | 4 | 5 | .5 | 0 | 2 |
| ½ grilled squash | 30 | 2 | 7 | 3 | .3 | 0 | 3 |
| ½ grilled red pepper | 20 | 1 | 5 | 3 | 3 | 0 | 3 |
| ½ baked potato | 106 | 2.5 | 25 | 8 | .2 | 0 | 2.5 |
| 2 c spinach (raw) | 14 | 2 | 2 | 48 | .1 | 0 | 1 |
| 5 cherry tomatoes | 31 | 1 | 7 | 13 | .5 | 0 | 2 |
| 3 spring onions | 10 | .1 | 1 | .3 | 0 | 0 | .1 |
| ½ c sweet corn | 70 | 2 | 15 | 175 | 1 | 0 | 1.5 |
| 3 T no-fat Italian dressing | 24 | 0 | 6 | 575 | 0 | 0 | 0 |
| 1 baked skinless chicken breast | 150 | 29 | 0 | 95 | 1.5 | 75 | 0 |
| 2 T Teriyaki sauce | 30 | 2 | 4 | 1220 | 0 | 0 | 0 |

**Calories Taken In**

| Food | Calories | Protein[a] | Carbohydrates[a] | Sodium[b] | Fat[a] | Cholesterol[b] | Fiber[a] |
|---|---|---|---|---|---|---|---|
| Dessert: | | | | | | | |
| 1 c low-fat yogurt | 120 | 8 | 22 | 120 | 0 | 5 | 0 |
| 1 banana | 109 | 1 | 28 | 1 | .6 | 0 | 0 |
| 1 can drained Mandarin oranges | 70 | 0 | 15 | 15 | 0 | 0 | 0 |
| Snacks: | | | | | | | |
| apple | 73 | 0 | 19 | 0 | .4 | 0 | 2 |
| 1 16 oz. diet vegetable juice | 20 | 0 | 3 | 25 | 0 | 0 | 0 |
| 2 diet colas | 0 | 0 | 0 | 70 | 0 | 0 | 0 |
| 3 33.8 oz. flavored water | 120 | 0 | 36 | 315 | 0 | 0 | 0 |
| **Totals Taken In:** | 1804 | 91.05 | 310.65 | 3932.8 | 25.6 | 521 | 30.5 |

CALORIES EXPENDED

| | |
|---|---|
| 8:15–9:30 A.M. mountain running/hiking (steep hills) | 500 calories |
| 5:30–6:00 P.M. gardening | 150 calories |
| **Total Calories Expended** | 650 calories |

[a]In grams
[b]In milligrams

# 6

# How Many Calories Do We Need?

Figuring how many calories you need per day takes a bit of calculating. You must take into account your height, gender, and activity levels. The easiest way to find out what you need to is to log on to a Web site that can quickly identify all the factors pertaining to you. Many sites will calculate your caloric and nutritional needs. Try:

*The Lifestyle Company:* http://www.thelifestylecompany.com/wloss/dcr.asp
*ExRx.net:* http://www.exrx.net/Calculators/CalRequire.html
*Page Wise:* http://tx.essortment.com/calorierequir_rvay.htm

If you want to calculate how many calories you need per day yourself, get a calculator and some patience. Here are some methods for calculating the calories you need.

**Method One**

MEN Multiply your body weight in kilograms (kg = pounds divided by 2.2) by 24 to equal calories per day. Example: 190 lbs ÷ 2.2 = 86.36 kg × 24 = 2,073 calories per day.
WOMEN Multiply your body weight in kilograms by 24 to equal calories per day. Example: 150 lbs ÷ 2.2 = 68.18 kg × 24 = 1,636 calories per day.

**Method Two**

Find your BMR (basal metabolic rate) or the number of calories your body needs to operate when you are at rest:
MEN BMR = 66 + (13.7 × weight in kg) + (5 × height in cm [cm = inches × 2.54]) – (6.8 × age in years). Example: For a sedentary man who is 42 years old, weighing 86.36 kg (or 190 lbs), and 177.8 cm in height (or 5'10"tall), the formula for BMR is calculated as: 66 + (13.7 × 86.36 kg) +

(5 × 177.8 cm [70 in. × 2.54]) – (6.8 × 42) = 66 + 1183.13 + 889 – 285.6 = 1852.53.

**WOMEN** BMR = 655 + (9.6 × weight in kg) + (1.8 × height in cm) – (4.7 × age in years). Example: For a sedentary woman who is 47 years old, weighing 68.18 kg (or 150 lbs), and is 177.8 cm tall (or 5'10"tall), the formula for BMR is calculated as: 655 + (9.6 × 68.18 kg) + (1.8 × 177.8) – (4.7 x 47) = 665 + 654.53 + 320 – 221 = 1408.53.

**Method Three**

Calculate your BMR (the number of calories needed) if you exercise:

**MEN** Calculate your BMR as shown in Method Two above. To determine your total daily calorie needs when you are active, multiply your BMR by the appropriate activity factor, as follows.

Inactive (little or no exercise): BMR × 1.2
Lightly Active (light exercise or sports 1–3 days/week): BMR × 1.375
Moderately Active (moderate exercise or sports 3–5 days/week): BMR × 1.55
Very Active (hard exercise or sports 6–7 days/week): BMR × 1.725
Extra Active (very hard daily exercise or sports and physical job or training twice a day): BMR × 1.9

**WOMEN** Calculate your BMR as shown in Method Two above. To determine your total daily calorie needs when you are active, multiply your BMR by the appropriate activity factor, as follows.

Inactive (little or no exercise): BMR × 1.2
Lightly Active (light exercise or sports 1–3 days/week): BMR × 1.375
Moderately Active (moderate exercise or sports 3–5 days/week): BMR × 1.55
Very Active (hard exercise or sports 6–7 days/week): BMR × 1.725
Extra Active (very hard daily exercise or sports and physical job or training twice a day): BMR × 1.9

**To Lose Weight**

A pound of fat contains 3,600 calories. If you want to lose one pound of fat, you must expend 3,600 calories. If you want to lose ten pounds of fat, then you must expend 36,000 calories, and so forth. The healthiest way to lose weight is to expend 500 extra calories per day through both exercise and wiser food consumption.

To get an idea about how much our lives have changed, compare the amount of calories expended in various activities for a continual hour for a 150-pound individual (add 120 calories burned for each additional 25 pounds of body weight, or subtract 120 for every 25 pounds less weight:

Chopping firewood: 430
Aerobics (high impact): 420+
Aerobics (low impact): 320
Bicycling (10 mph): 250
Bowling: 180
Mountain biking: 500+
Canoeing (easy): 250
Canoeing (6 mph vigorous): 700+
Basketball (entire) game: 490+
Basketball (wheelchair): 400
Working on your car: 180
Light housecleaning: 220
Construction (shingling, nailing siding, installing porch, etc): 350+
Cooking (grinding corn is about 50–100 more per hour): 150
Childcare (active): 180
Circuit weight training (minimal rest): 475+
Cross-country skiing (moderate speed): 490
Cross-country skiing (vigorous): 550+
Cross country machine: 500
Dancing (including ballet, modern, powwow): 360+
Darts: 150
Driving: 110
Eating: 90
Farm work (milking, bailing, etc.): 490

Fishing in boat: 150
Fishing in waders: 350
Football and baseball (catch): 150
Football (touch): 490
Frisbee: 207 (more for your dog)
Gardening: 250–400
Golf (carrying your clubs): 325+
Handball: 700+
Hiking: 350
Hiking (mountain): 600
Horse grooming: 350
Horse riding: 300+ (more for the horse, of course)
Hunting: 300+ (depending on weather, terrain, amount of sitting, tracking, dragging, etc.)
Ice skating (recreational): 430
Kayaking: 300
Lacrosse/stickball: 500+
Martial arts: 590
Mowing lawn (push mower): 330
Racquetball: 600
Raking leaves: 250
Rock climbing (ascending and rappelling combined): 650+
Rollerblading: 500
Roller-skating: 430
Rugby: 600
Running (10 mph/6-minute miles): 950
Running (6 mph/10-minute miles): 590
Running (5 mph/12-minute miles): 480
Running (cross-country): 550
Sewing or knitting: 90
Shoveling snow: 360
Skateboarding: 300
Skiing (snow, downhill): 440+
Sitting: 85
Snorkeling: 320
Soccer (casual): 430

Softball: 320
Squash: 720
Stair-machine (not leaning on arms): 370
Swimming (laps): 500
Tennis: 400+
Typing: 140
Playing videogames: 50
"Power" (fast and using arms) walking: 500
Sleeping: 60
Walking (slow—2 mph): 150
Walking with crutches: 250
Water skiing: 350+
Weightlifting (vigorous): 400+
Weightlifting (moderate effort): 190
Yoga: 250

# 7

# Changing What We Eat

A radical option for us is to give up all foods that are not indigenous to this hemisphere and to prepare only those Native plants and animals in the same ways that our ancestors traditionally ate them. Not everyone would be enthusiastic about eating only unrefined and unprocessed foods, but some people are. A notable example is Matt Graham, a long-distance runner who lives outdoors under tarps, makes tools like spears and arrowheads from flint, runs only in sandals he made himself, and only eats foods he finds outdoors, such as raccoons and coyotes (from which he makes jerky). To fuel his body on long runs he depends on sunflower and chia seeds. This strategy of living off the land seems to work; he recently completed a fifty-five-mile race in less than seven hours, and the three racers who placed ahead of him were on horseback.[1]

Historically, it is true that Natives did not fry everything and they were constantly active. Nor did they breathe, drink, or eat pollutants; but herein lies a catch: Today, much meat and fish are contaminated by PCBs and other toxins. In other words, diets of people in one century may not necessarily be practical for those of us in another century for the simple reason that today there are many more variables to consider. This is especially true of northern tribes who mainly depended on blubber and meats. For example, some researchers write that many of the animals—especially parts of the animals such as the kidneys, beaver tail, depot fat of the harbor seal, and sheep intestine—are high in saturated fat, as much as 65%, and Natives consumed this fat on a regular basis.[2] While tribespeople did eat more parts of the deer, elk, and buffalo than we might today, they were consistently active and did not eat processed or toxin-laden foods that would have devastated their health. We can try, however, to eat in a traditional fashion. According to the Mayo Clinic, three ounces of deer meat, for example, contain 134 calories, as opposed to 259 calories for the same amount of beef (this is a composite of all

cuts that have been trimmed and cooked).[3] Other types of venison (elk, reindeer, moose, caribou) are also lower in fat than beef.

Few of us are willing to give up all sweets, milk products, chips, and pizza. Some argue that we do not have to abstain from processed foods to stay healthy, but that we must eat them only in moderation. In any case, many Native activists advocate educating ourselves about our histories in order to take a stand against colonization and that includes studying the ways our people used to eat. One symptom of accepting colonization is adhering to the typical American diet even while it is killing us.

Conversely, one way to decolonize is to change our eating habits. As Dakota intellectual activist Wazi yata win Angela Wilson writes about a recent diabetes conference:

> A group of us in attendance committed to the revitalization of our traditional ways discussed the importance of Dakota people returning to our traditional diet. . . . We all agreed that in order to build healthy bodies, we need to return to a diet based on the plants and animals also Indigenous to our homeland. If we could sustain ourselves on the lean meats of venison, buffalo, and fish, wild rice from our traditional lands, corn, beans, and squash from our gardens, and the numerous berries, nuts, and root vegetables we routinely harvested, diabetes would not be a health concern for future generations. The supposedly "superior" diet and food ways forcefully imposed on us have only served to deteriorate the health of our people.[4]

All Natives can do the same. A "clean" lifestyle that includes a diet free of (or with minimal use of) processed foods, no use of commercial cigarettes, moderate drinking, and daily exercise, will bring many rewards. And it can come easily if we remain optimistic. Proper living will keep our weight down, our blood pressure normal, and energy high. Even twenty minutes of exercise per day, three days a week, can reduce the chances of developing diabetes. Studies reveal that a reduction of 5–10% of the body weight of obese individuals can reduce the chances of developing cancer by 58%.

By gaining good health we also gain confidence, pride in ourselves,

and in our tribe's rich traditions. Even small steps are greatly meaningful. Contact members of your tribe and exchange traditional recipes. Try to make one traditional meal per week and then begin incorporating two or three per week. Walk around the block each morning.

One thing to keep in mind is that everyone is different. Some cannot properly digest milk products or gluten. Some are allergic to certain foods. Some are able to eat many eggs and other animal products per week without increasing their cholesterol level, while others have difficulty even when they eat few animal products. Others have high blood pressure even though they exercise and are careful about their diets. My father, for example, was an exceptionally thin distance runner who was obsessive about his diet, yet he inherited, and retained, his high blood pressure. People also metabolize foods at different rates. Do not try to eat as much as your larger and more active spouse or friends.

**Suggestions for Transitioning to a Healthier Diet**

It is not the purpose of this discussion to provide medical advice about "curing" diabetes or obesity. A person with diabetes must consult a physician. One thing a diabetic will need to be aware of, however, is how to count carbohydrates. One way to educate yourself is to look at "Carb Counting" at http://www.diabetesnet.com/diabetes_food_diet/carb_counting.php, a Web site that gives you a formula for calculating how many grams of carbohydrates you may consume depending on how much insulin you use. Also see the Native American Diabetes Project Diabetes Wellness Connection for information on how to control and prevent diabetes at http://www.laplaza.org/health/dwc/nadp/.

Look at the Native American Food Guide at http://www.aaip.com/tradmed/tradmedfoodguide.html to view lists of "common" foods that might be eaten every day to satisfy nutritional requirements, alongside lists of traditional tribal foods that can be used as substitutes. For example, in the bread group one could use cattails, dried corn, lukameen, and wild rice. Try new ways of preparing foods such as wild rice, venison, salmon, squashes, beans, and corn.

Drop hamburgers made with fatty meat, fries, and milkshakes and substitute fruit, vegetables, chicken, and game meats. In addition to

daily exercise, this can make a tremendous difference in your body fat percentage and sugar levels.

For those who like bread but do not want to deal with the consequences of celiac disease, look for substitutes. You can make substitute gluten and wheat with almonds, arrowroot, corn (flour, meal, and starch), hazelnuts, lentils, peas, pistachios, potato flour, potato starch flour, rice flour, soy, and tapioca.[5]

Try tofu. Made from soybeans, firm tofu is a tasty substitute for meat. Prepare it with grilled vegetables and try it in soups and stews. Tofu tends to absorb the flavors of the foods it is cooked with and is a good "filler." One half cup of firm tofu is approximately one hundred calories and contains ten grams of protein, four grams of carbohydrates, ten micrograms of sodium, and about five grams of fat. Many restaurants offer tofu dishes.

Start buying frozen chopped spinach to store in your freezer and use it as a staple. Your picky kids won't notice it much, either. You can add it to pizza and baked potatoes, as a topping, and put it in scrambled eggs, soups, casseroles, salads, tacos, and so on. You can also add sweet corn to a variety of foods.

Consider adding Brewer's yeast to your diet. It contains the B vitamins, zinc, and 40% of high quality proteins. You can take Brewer's Yeast tablets or add powder to drinks (it tastes strong, so try it with tomato juice or vegetable juice).

Learn to like foods that are high in fiber and nutrients, but low in calories and with a low glycemic index. Foods with a high glycemic index (GI) cause your blood sugar to rise and fall quickly, making you hungry. Those with a low number allow your blood sugar to fall more slowly, thus satisfying your hunger longer. High GI foods include cakes, pies, muffins, breads, cereals, cookies, potatoes, rice, candy, and sugars. Lower GI foods include most vegetables and fresh, whole fruits (not juice).

Eat the entire fruit instead of the juice. Juice may contain some nutrients but is high in calories and sugar. Eating a whole apple instead of

drinking apple juice provides you with fiber and a feeling of satisfaction. And remember, many products that look like fruit drinks may contain little or no actual fruit juice. Read the labels.

If you are a milk drinker, add a tablespoon or two of nonfat dry milk to your cup of milk in order to increase your intake of protein and calcium.

Go to the grocery store with your children or a friend and pay attention to every food in the fruit and vegetable section. What foods do you always eat and which ones have you never tried? Many groceries have cards or recipe books located close to the scales. Take a small tablet with you and then look through the recipes. Write down the ones that sound appealing and try making them.

If you do not buy an item, you cannot eat it. When grocery shopping, grit your teeth and pass by the bags of chips, candy, and sugary drinks. If you only have fruits, vegetables, yogurt, and lean meats in your basket, then those will be your choices at home. And if you do not buy cookies, candy, pop, and pie, then your children will not be able to eat those things, either. Children can be sneaky when they know goodies are in the kitchen and they will find them no matter where you hide them (believe me, husbands will too).

Try ground turkey (without the skin) instead of hamburger. Try "turkey dogs" (with white meat) instead of hot dogs.

Buy whole wheat bread, not just "wheat" bread. The latter is often no more nutritious than white bread and may have been dyed with caramel coloring to look like whole wheat. When the bran layer is removed from grain, 80% of the nutrients are lost. Eat whole grains. They keep you fuller longer. Beware of bran muffins, however, that are very high in fat and calories.

Eat yogurt that contains *L. acidophilus*, a bacterium that helps to break down food and release more of its nutrients.

There are fifteen thousand species in the legume family. A nineteen-year study shows that men and women who eat legumes four times a week have a 22% reduction in their risk for heart attack.[6]

Peel off the skin of chicken and turkey. Even baked, the fat content is very high.

Wild rice is Native to North America. Stop eating white rice (and certainly, fried rice at Chinese restaurants) in favor of wild rice. Add vegetables such as peas and carrots to the mixture.

Use nutrient-rich spinach instead of iceberg lettuce.

Stop eating your children's leftovers. Pack it for later, feed it to the chickens, or throw it away.

According to the Northarvest Bean Growers Association, a daily intake of two cups of cooked dry beans, when part of a low-fat diet, has been shown to reduce cholesterol levels in men and to improve glucose control in diabetics. Go to http://www.northarvestbean.org/html/schoolbasics.cfm.

Use vegetable oil instead of lard. Better yet, try a cooking spray, which come in several flavors (butter, garlic, olive oil, lemon, or "original"), to coat your pots and pans or brown your turkey but that adds almost no calories. If you need to use lard or grease in a recipe, try using no-salt chicken broth instead.

Trim all visible fat from red meats and, after cooking, drain and blot off any excess fat from bacon, sausages, breads, and so on, with paper towels. Chill canned meat so you can remove the layer of grease that accumulates on the top.

Stop eating fried foods; roast, broil, bake or steam instead.

Scrutinize the hot dogs and luncheon meats before you buy. They usually contain too much sodium and fat (in addition to what many consumers would consider undesirable parts: genitals, intestines, etc.). Look for products that specify "white meat," "low fat," and "low sodium."

Be careful about buying fish. Try to find out where your fish came from. Many fish contain PCBs (polychlorinated biphenyls, which have shown up in breast milk among Iroquois women) and mercury (that

appears even in fresh-water, small-lake fish). As with beef and poultry, remove any visible fat and do not eat the skin.

Buy an easy-to-use crock pot (slow cooker). You can put, for example, chicken breasts, carrots, new potatoes, celery, tomatoes, mushrooms, and spices in the pot in the morning and the hearty meal will be ready for dinner. Slow cookers are inexpensive, very easy to use and clean, they last long, and the combinations of foods to cook are endless.

Eat smaller portions and eat slowly. If you eat quickly, try putting each food on a separate plate. This will make you slow down.

If you have difficulty consuming enough fiber, try the various fiber caplets that you can find at the grocery store.

Stop using salt and try herbs instead. Drain and rinse canned vegetables to get rid of salt, and do the same for fruits to lose the sugar syrup. You do not need salt to cook pasta, rice, or oats.

We eat almost twice as much protein as we need. Unless you are very active, cut back on red meats.

If you need something sweet on oatmeal, try using a product containing extract of the *Stevia rebaudiana* herb. It is three hundred times sweeter than sugar and is safe for diabetics.

You can lessen the carbohydrate and calorie count of a sandwich or hamburger by removing the top half of the bun or one piece of bread.

University students must beware of the "freshman fifteen," that is, the average amount of weight a freshman gains after the first year at school. Keg parties, and high carbohydrate and fatty foods such as chips, cookies, breads, fast foods, and sweets are the main culprits. Walking to classes and eating a salad instead of French fries, and fruit instead of cookies, each day can hugely improve a student's health.

Severely curb or stop drinking colas. Even diet drinks can be problematic because they erode your teeth and they can make you crave sweet foods.

Start checking your foods for "high-fructose corn syrup" (HFCS), an inexpensive ingredient that appears in everything from whipping cream to various cereals. HFCS does not stimulate the creation of insulin and leptin (a protein produced by fat) that can tell you when you have had enough to eat. You do not feel full by consuming large quantities of HFCS. It is recommended that if a food you are about to purchase at the grocery has more than eight grams of sugar, and if HFCS is listed as first or second on the list of ingredients, then buy something else.[7] Remember that sugar also goes by these names: corn syrup, crystalline fructose, dextrose, fructose, fruit-juice concentrates, glucose, high-fructose corn syrup, high-maltose corn syrup, honey lactose, invert sugar, lactose, malt, maltose, molasses, sucrose, syrup.[8]

If you drink a glass of wine or beer, drink a glass of water while considering if you really need another glass. Avoid hard liquor—it has a much higher alcohol content. Try no-alcohol wine and "near beers," those brews with less alcohol.

A small, electric grill solves many problems. You can easily and quickly cook meats and watch much of (but not all) the excess fat dribble away into a collection bowl. Our family grills slices of squash, zucchini, red bell peppers, and green chilies for a low-calorie dish of vegetables, combined with grilled shrimp or grilled skinless chicken breasts. I know some athletes at Northern Arizona University who have a small grill in their dorm rooms and they have used it so much to make grilled turkey and vegetables, sandwiches, and burgers that the non-stick coating has worn off.

Roasted green chili peppers can serve as a garnish or side dish for any meal. We use Hatch chilies from New Mexico that are roasted at the local farmer's market. I buy them already roasted in twenty-pound bags and then divide them into smaller portions in baggies to freeze. Because they are roasted, the skins come off easily after they are thawed and held under warm water. We put them on pizza, sandwiches, eggs, baked potatoes, and in stews. When freshly roasted, I eat them plain. Go slow until you know your tolerance level: start with the "mild" variety, not "hot."

Baked potatoes have only around one hundred calories plain and are filling, but when you add butter, sour cream, bacon or cheese, you can easily add on five hundred or more calories. Try your spud with no-fat Italian dressing instead; or if you must, a bit of low-fat butter or margarine. Better yet, have a yam (or half a yam) for a sweet taste and much vitamin A. Potatoes are primarily carbohydrates, which means they are converted into sugar very quickly, so diabetics must beware of eating too much.

Stop eating soft noodles at Chinese restaurants; they contain mainly fat.

Dieters can save money by paying closer attention to how grocery stores market their products. Check unit prices; sometimes you can get cereal, for example, at a lower price in a larger box than a smaller one because the "unit price" is different. Pre-cut vegetables and salads cost more than separate bags of carrots, celery, lettuce, and spinach. The healthier, cook-it-yourself "plain" oatmeal is cheaper than the individual "sugared" packets. Store-brand products are usually cheaper than national brands. Small bags of products such as snacks sold next to the checkout stands are more expensive than large bags of the same thing. Cereals on the bottom shelves are often cheaper than are those higher up and at eye level. Items on the ends of aisles are not necessarily on sale. Warehouse clubs are not always full of bargains, and you have to buy enormous quantities of some items to get a good deal. (And unless you are having a party or have a large family, who can eat that case of mangoes before they spoil?) Coupons and store cards do help cut costs.

Take a tip from Dolly Parton, who stands five feet tall. "I just eat small portions of what I like," says Dolly, and admits, "You just have to watch it when you're this short and have an appetite this big."[9]

At airports, do not buy from the food stands. Many of these fast-food restaurants offer only carbohydrates that will leave you feeling hungry a short time after eating. Instead, bring your own food. I either bring "roll ups"—lean meat (turkey, usually), cheese, lettuce, tomato, and mustard wrapped in a spinach tortilla that I pack in a flat, insulated

lunch box that fits easily in my kids' backpacks—or I go to Subway beforehand and get turkey subs with everything on them (375 calories for a six-inch sub with cheese; 330 without cheese). For snacks, we eat nuts and jerky. In a tight pinch, we might buy a Burger King hamburger at 130 calories and 250 mgs of sodium. This is a much better choice than a Whopper with cheese (at 760 calories and 1380 mgs of sodium, and certainly better than the Double Whopper with mayo, at 1,010 calories and 1460 mgs of sodium). Do not order French fries. Even a small, unsalted portion adds 250 calories and 480 mgs of sodium to your intake. A small chocolate shake will add another 330 calories to this list. Have a diet cola (0 calories) and a kiddie-size nonfat yogurt (88 calories), instead.

As the above discussion of calories and nutrients illustrates, it is crucial that anyone concerned about nutrition check the ingredients of your meals. This is easier than you might think. You can access specific restaurant nutritional analysis, such as Burger King, at http://www.burgerking.com/food/nutrition/index.aspx. McDonalds is at http://www.mcdonalds.ca/en/food/calculator.aspx. Taco Bell can be found at http://www.yum.com/nutrition/menu.aspx. But to make things easier, you can also access http://www.foodanddiet.com/NewFiles/fastfood.html, http://www.nutritiondata.com/, or the book *The NutriBase Complete Book of Food Counts* (New York: Avery, 2001) for a complete list of restaurants and the nutritional data for the food they serve. Instead of dumping dressing onto your salad, ask for dressing on the side and dip the ends of your fork into the dressing before skewering your greens. You may find that you do not need dressing as much as you thought. Try fat-free dressings. My favorite is fat-free Italian (this, instead of fattening butter and sour cream, goes on the baked potato, as well). You can completely ruin a low-calorie and low-sodium salad by adding five hundred calories or more of dressing.

Do *not* feel as if you have to eat everything on your plate. *Only* eat until you are full. More is not better. Just because corn, avocados, and potatoes are traditional foods, it does not mean you can eat as much as you want of them. You must control the portions you consume. It is as simple as that. As we grow older, our metabolism changes and becomes

slower. In high school, I could eat a huge breakfast, lunch, and devour an entire pizza for dinner by myself, but at that time I was a teenager, ran every day, and rode my bike eight miles to and from school. I had to adjust the amount of food I took in at age thirty, then again at thirty-five, forty, and forty-five. You cannot eat as much as your teenager can. So, unless you are a marathoner, do not attempt it. If you are not hungry, settle for fruit or yogurt. Just because everyone around you is eating does not mean you have to. Consider eating five to six small meals a day. This is easier on your body than three large meals. You are better able to monitor how full you are if you eat smaller portions.

Unless I am very hungry and know I can handle everything on my plate, then I use the following strategies to make sure I do not overeat and to make sure that what I eat is healthy.

At restaurants:

Order an appetizer instead of an entrée (such as shrimp cocktail, chicken sate, a bowl of soup, dinner salad, etc.).

Drink plenty of water with lemon so you will not be tempted to order a calorie-filled drink.

You and your partner could each order an appetizer and split an entrée.

Tell the waiter to take back the bread or chips basket. If it is not in front of you, you cannot eat it.

Do not fall prey to any annoying waiters or waitresses who almost force desserts and drinks onto your table. Say up front that you do not want to see the dessert tray. Say no and mean it.

Eat only half of your meal and ask for a take-home container. I ask for one as soon as the food arrives so I can put half the meal in the container immediately and not be tempted.

Tell the waiter to remove any completed meal you do not plan to take home so you will not be tempted to pick at it.

Never order dessert. If it is a special occasion, or you have been very active that day, then sometimes (not as a rule!) order one dessert and split it with the rest of the table. If you must eat dessert, share it. Our family may indulge in say, Key Lime pie, but we divide one serving between four people. A dessert that we eat guilt-free is low fat yogurt topped with mandarin oranges and a banana.

Do not order drinks unless it is a diet drink or unsweetened tea. Considering how expensive tea bags are these days at restaurants, just drinking water helps with your pocketbook.

At home:

Use small bowls and plates instead of your large ones. This helps you feel as if you are not being deprived, psychologically.

Only make enough dinner to provide one helping per person. If you make more than that, eaters are tempted to keep going back for more.

Make more vegetable and fruit dishes than the heavier main course dishes (unless your main course is free of unprocessed foods, heavy fat, and salt). In other words, make less chicken and dumplings, steak, and lasagna and more salad, grilled vegetables, and fruit mixtures.

Desserts, if any, should be limited to a few bites, enough to enjoy it. A small tube glass filled with frozen yogurt is satisfying. Taking a half-gallon of ice cream to your chair with you while you watch television is mindless eating.

At parties and potlucks:

Eat an apple or a small cup of vegetable soup before leaving the house so you will not be tempted to eat everything you see.

Tell yourself ahead of time that you will not eat the fried bread, potato or egg salad, chips, cookies, cakes, or pies. Tell yourself that you will eat the healthier alternatives: the mayonnaise-free vegetable salads, fruit, beans, a hamburger with only half the bun, and just half of a

dessert (I like oatmeal cookies). It helps a lot to have a partner or friend with you who follows the same strategy.

One way to solve the unhealthy potluck problem is to bring healthy foods yourself. If you bring sliced vegetables with fat-free ranch dip, a variety of cut-up fruit, a slow cooker of vegetable stew, or a large salad (I always bring my "Everything Salad," *tamfula*, or elk stew) to events, then you know you will have things to eat.

On the road:

If you are traveling any distance in a car, then invest in an ice chest. Pack healthy foods for your family so you can by-pass the fast-food restaurants or use your own food to supplement "road food."

Take yogurt, fruit (it helps to put fruits in plastic containers so they do not bruise), containers of applesauce, low-calorie drinks, cheese, peanut butter, whole grain bread, sliced low-fat meat, condiments, plastic glasses, paper towels, and dinnerware. Think ahead about all the things you normally use at home that can be taken on the road so when you take a break at rest stops or at hotels, you will have everything you need.

If you plan on frequenting restaurants, bring along your own low-fat, low-calorie salad dressing and use that instead of fattening ranch, Thousand Island, and blue cheese dressings. Take your own packets of an herbal sweetener (such as Stevia) instead of using artificial sweeteners in coffee and tea. Fill up on salad and low-calorie appetizers, split entrées, never order dessert, and always request fruit instead of fries (this is really important for children who often are stuck with greasy choices on the kids' menu). You will not only save money, you also will be proud to discover that you have not gained any "vacation weight."

With relatives:

Parents and grandparents, aunts and uncles, cousins and siblings want

to feed you when you visit. You can deal with unhealthy food for a day or two, but for extended visits, you must take matters into your own hands. Tell them you would like to contribute to the meals. Go to the local grocery store and buy ingredients for a large salad that includes lean meats and a low-calorie and low-fat dressing; this is a meal by itself. For other meals, make skinless chicken breasts, squash, corn, and corn bread, or perhaps grilled catfish, spinach salad, sweet potatoes, and corn tortillas. Breakfasts can be oven-baked potato slices, egg-white omelets filled with sautéed vegetables, and lean ham. Buy fruits, cheese sticks, and vegetables to snack on.

When said family comes to visit you, use the same healthy ideas for meals, but add one dish per meal that they like. For example, if your family insists on white flour tortillas, make sure that this is supplemented with fruits, vegetables, and lean meats. Try new ways of preparing green chili. You do not need ice cream and cake for dessert. Yogurt, fruit, and nuts can satisfy almost anyone, especially if you put it in a fancy cup or dessert flute.

Regarding children:

Breast-feed your babies. Human milk and cow's milk are different in their protein and antibody makeup. Breast-feeding provides protection against infection and provides closeness for mother and child.

When we go to a salad bar or buffet, my children have to get at least six "colors" on their plates; one must be red (tomatoes or bell pepper) and two have to be shades of green (for example, spinach and kiwi); the colorful candy options are not allowed.

Provide your children with a nutritious lunch rather than depending on the questionable menu at their school. My kids' boxes are filled with any of the following:

A small, reusable ice pack to keep food cool

One half to a whole sandwich of whole wheat bread with either peanut butter and a thin layer of plum jelly, or a slice of lean turkey or chicken breast with a slice of cheddar cheese and mustard

Fruit (an apple, pear, peach or banana; cut up and stored in a small plastic container)

Small baggie of pretzels

One yogurt in a squeezable container

Baggie of cut-up carrot or celery sticks with a small side of no-fat ranch dressing

Small container of low-fat milk

Small container of apple or orange juice for after-school snack

Luna Bar for after-school snack

My kids never get soda, candy, or donuts for lunch. Occasionally they might get a bag of tortilla chips, but they split a small bag between the two of them.

# 8

# Recovering Our Fitness

Many health problems could be solved by a diet that features vegetables and lean meats, plus daily exercise. Not everyone has time or the desire to lift weights or to run for two hours per day, but walking and lifting light weights is possible for nearly everyone. Disabled individuals often can swim and play wheelchair sports such as basketball and tennis. Some activists argue that we should perform only "traditional" exercises. But it is not always possible to garden, hunt, gather, play stickball, or to run. Going to the gym may be distasteful to purist traditionalists, but in modern times we often have no choice.

Here are some ideas to help you choose a way to keep fit:

You must chose an activity that you like and look forward to; if it feels like a chore, then try something else: swimming, basketball, softball (the main benefits come from training), or bicycling.

Weight-lifting builds muscle, and muscle burns more energy than fat, even at rest. So the more weight-resistant exercise you do, the more calories your body will burn at rest.

A return to playing stickball on a regular basis and practicing often enough to keep us strong, and our body fat low, is another possibility. It can be done; my son and I not only try to practice tossing and catching in our yard, we always take our sticks to the gym and use the racket-ball courts to throw against the wall. While this is not exactly the traditional way to play, it does give us the opportunity to work on skills and hand-eye coordination. This, in combination with running and lifting weights, is an effective workout.

Include your friends and family in your fitness plans. Learn to play stickball and invite friends to join in weekly games. Start a walking

group with your friends or neighbors. Go to the YMCA, walk around a mall, or look for aerobics classes in your town and take a friend for motivation.

Learn to swim like your ancestors. Hundreds of thousands of Natives lived by the coast, rivers, and lakes and there is no doubt that swimming was part of their lifestyle. An artist, George Catlin, observed of many tribes in the early nineteenth century:

> The art of swimming is known to all the American Indians; and perhaps no people on earth have taken more pains to learn it, nor any who turn it to better account. There certainly are no people whose avocations of life more often call for the use of their limbs in this way; as many of the tribes spend their lives on the shores of our vast lakes and rivers, paddling about in their childhood in their fragile bark canoes, which are liable to continual accidents, which often throw the Indian upon His natural resources for the preservation of his life.[1]

Learn to canoe like our ancestors did. Tribespeople who lived near water not only swam, they also canoed. While your ancestors may have used canoes they made themselves from trees, you can purchase metal or fiberglass canoes to save you the backbreaking trouble (or, satisfying work, depending on how you look at it). I learned to manage a canoe at age eight and now get into one whenever I can. Your local Red Cross might offer canoeing courses that teach you all the basics of canoeing. The beauty of canoeing is that it is like riding a bike—you never forget how. Canoeing can be strenuous and even dangerous depending on the water you choose, but in calm water even little children can help you along. As they grow older, their strokes become more powerful. Invest in a canoe and you can take it on trips to lakes, rivers, steams, and ponds.

**Run Like Your Ancestors**

How do you start running?

Your ancestors often ran barefoot without running shoes, Gore Tex, socks, or fanny packs that hold CDs. So there is no reason for you

to avoid giving it a try. And if you cannot run, then walk. The cost of running is less than for most sports. You will need to invest in a good pair of running shoes that will accommodate your feet (high or low arches, pronation, supination), body type (weight, knee condition), type of activity (racing, walking, cross-training), running surface (street, trail). Socks are also important; if you use thin socks you will get blisters and stinky feet. Buy thick socks that will protect your skin and absorb perspiration.

Walk first. Start with fifteen-minute walks every day for a week and work up to thirty minutes. Once you are comfortable with a fast walk and your doctor says you are healthy enough for more rigorous exercise, then try slow jogs. Walk when you are winded, then jog again after you recover. Do not go too fast or far the first few months. Thirty to forty-five minutes four times a week is an adequate regimen. Once you feel comfortable, then extend your outings by fifteen minutes.

Take water with you. "Tough" coaches used to withhold water from their athletes thinking that this would make them stronger; but this is a tactic that has proven to be physically damaging. You must stay hydrated on walks and runs, so take a bottle with you and drink every twenty minutes. Then drink another glass when you get home. When you become thirsty, you are becoming dehydrated.

Buy a small fanny pack that will hold a water bottle. You can also clip your cell phone and mace to the waistband and store lip balm, sunscreen, money, tissues, and other sundries in the pockets. I have numerous fanny packs for every outing: a light one for short runs that holds just the above; another one a bit larger for longer hikes and runs in the mountains where I might need more water, an extra pair of socks, knife, food, bandages, and so on; and a larger shoulder pack for all-day outings.

Buy a hat or visor and sunglasses and wear them for sun protection.

Many new mothers find it difficult to find time or energy to exercise. Most modern Natives do not garden or gather food, much less take their kids along, which makes them even stronger for the effort. Try

what I did with both my children: I bought a baby jogger (not a cheap stroller that cannot withstand much use; even my joggers with shocks wore out after a year) and went out for six-mile walks until my body was ready to run and we went out every day. You do not have to go as far, of course, but I have been a runner for over thirty years. I took along diapers, bottles, and sunscreen (get a jogger with a shade) and a fanny pack to carry water, tissues, money for stopping at garage sales, and extra clothes in cold weather. Both my kids basically grew up in the joggers; along the way they learned about trees, birds, and squirrels, and once we moved into the woods they got to see deer, elk, porcupines, and hawks.

**Fitness and Your Children**

When your children are old enough to walk distances, take them with you. Even if they are so small they can only manage only half a block, take them, then drop them off at home (with a sitter, of course) and you continue your walk or run.

Take them swimming and teach them how to shoot hoops and to throw and catch.

Organize games for the children in your area so they all can be active.

Volunteer to be a coach when soccer, basketball, and cross-country season comes around. Add a few more workouts and tell them about healthy eating. Tell parents that no junk food is allowed as after-game snacks.

Have your children play sports. Focus on them learning the game(s), not on winning. A child who starts a sport early learns valuable lessons they will carry with them the rest of their lives—what it takes to become fit, how to maintain that fitness and skill level, that achieving something takes work and perseverance, that proper eating enhances physical performance, and that it is easier to maintain fitness than it is to stop being active and then try to regain that after a period of inactivity and poor eating habits. My children started playing basketball and soccer on formal teams at age four for fun and fitness.

My children also hike extensively and run. My daughter was able to hike eight miles for three days straight at Zion National Monument when she was six and my ten-year-old son does twenty (fairly decent) push-ups at a time. Children will do these things willingly, especially if they see *you* doing them.

For students, completing a degree can be stressful. Studying for exams and keeping up with readings and assignment deadlines is difficult enough without having to face racism and prejudice as well. Indigenous students, along with other marginalized students often are emotionally charged just by being on campus. Having to travel to keep up with community duties and ceremonies, dealing with family responsibilities, and worrying about finances can be overwhelming. Many people turn to alcohol or drugs to relax, while others watch movies or try to forget the daily drudge by sleeping. According to the NAU Native American Student Services office that deals with Native dropouts, many students simply stop going to class or "stop-out"—that is, when the going gets tough they leave school and return when they feel like it. How can Native students combat this stress?

One's attitude can improve almost immediately by walking to classes instead of driving or taking the bus, foregoing processed, fried, and fatty foods in favor of fruits, vegetables, and lean meats, and stopping bad habits such as smoking and drinking. Not only is one's physical state improved, but just making the changes is greatly empowering and can inspire students to face the challenges thrown at them in school. You can take those strategies a few steps farther. Along with proper diet, students can find easy ways to exercise by focusing on other things. For example, buy an animal tracks book (in addition to a small pocket guide to insects, trees, clouds, etc.), and make an effort to visit trails several times a week and try to identity what you see. By taking plenty of water and food, plus clothing, depending on the weather, you can stay outside for hours, not only walking and exercising but also learning about the natural world at the same time.

# 9

# Planting Gardens

Planting and cultivating gardens large enough to feed our families and to keep us active is one option for adopting a healthier lifestyle, and the inspiration for planting is multifold: Gardening is vigorous and satisfying work. Working in a garden allows people of all ages to participate in the various stages of cultivation. Research has shown that garden-grown produce (from seeds of traditional, Native seed) is more nutritious than market or grocery produce. For example, Arikara squash is higher in beta-carotene, calcium, chromium, fiber, magnesium, and vitamin E than market squash. Oneida hominy corn is higher in pantothenic acid and thiamine and lower in fat and sodium than market corn (see *The Land Stewardship Letter*, April–June 2004, at http://www.landstewardshipproject.org/lsl/lspv22n2.pdf).

Even if we do not have yard space or adequate ground for a garden, we can garden in pots. We would need many pots to have enough food for a family for the fall after cultivation, but even a few pepper, tomato, herb, and squash plants can be greatly empowering and symbolic.

You do not have to have acres of land to plant a productive garden. If you properly prepare and maintain it, even a small plot of land can yield vegetables you like. It initially takes some work and determination to get the garden started, but the better prepared the garden is, the less maintenance it will require. These are the steps that have worked for me. Other gardeners will no doubt have a variety of strategies that also work for them. Ask around for advice. Search the Web for gardening tips and look in your bookstores for more in-depth information. Visit your local nursery and you will find numerous people willing to talk to you.

What you will need:

Gloves (it only takes a few minutes of working with dirt to split fingernails)

Shovel
Spade
Hoe
Hose (I prefer a soaker hose that you can bury and turn on and off without having to spray each row yourself)
For tall plants like tomatoes, a metal cone the plants can lean on
For cold environments, Walls of Water, or similar plastic wrap with tubes you fill with water that encircles the plant to keep it warm
Tall stakes for pole beans to climb if you do not plant corn
Either a rented rotor tiller to break up the hard soil and mix fertilizer, or a strong back that can do the same with a shovel

**Steps to Creating a Garden**

Find the place in your yard that has afternoon sun. If possible, it should be a place where you can see it from your house in case birds and animals decide to eat your crops.

If you know that you have rabbits, deer, elk, or other animals that will be attracted to your garden, it will be necessary to fence it. You do not need an expensive chain-link fence. You can use six-foot wood or metal poles that you place in the ground about one foot deep. Use a posthole digger to make sure the hole is not too wide and will make the poles wobbly. Instead of cement to secure the poles, you can pack the hole with dirt and water. Slowly add water to the dirt to pack the soil firmly around the base of the pole.

We use range fencing instead of chain-link. Check local building-supply stores for "pre-owned," or used, fencing. After the dirt has hardened, you will need at least two people to assist in stretching the fencing and attaching with metal wire.

To keep out digging animals, get a roll of chicken wire and bend it in half length ways. On the outside of the fence, have half the wire rise vertically up the fence and the other half lie horizontally on the ground. This keeps skunks, rabbits, and other creatures from digging underneath.

Some people plant without taking into account their soil composition and they have good luck initially. After a few years, however, the soil "plays out" and they have poor yields, if any, of vegetables. If you decide

to become a gardener, you will need to find out the type of soil you have. Serious gardeners will take a sample of their dirt to a soil laboratory to find out how much sand, clay, loam, and so on, their soil contains. You can also check with your local nurseries who will probably know this information about your area from other gardening customers. Many nurseries sell soil-testing kits.

One way you can find out for yourself is to take a sample of soil from your garden area about eight inches into the ground. Add soil to a quart jar that is filled two-thirds with water until the jar is filled. Add one tablespoon of water softener. Put on the lid and shake the contents. Sand will settle to the bottom, then silt, and clay on top. After two to three hours, look at the layers:

Sandy: less than 5% clay
Sandy loam: 5 to 10% clay
Medium loam: 10 to 20% clay
Clay: 25 to 30% clay; more than that is heavy clay

So what does this mean? Loam is the best soil. If you have too much sand or clay, add organic mix so that almost one-half of your soil is organic matter. You can buy bags of organic matter at nurseries. Be certain that you tell the nursery staff as much as you can about your environment and bring in a soil sample with you.

You can start your own compost bin so that you will have organic material each year for your garden. Use a garbage bin, preferably a plastic one. Drill holes along the sides so air can circulate. Add food scraps (no meat or walnut shells), straw, grass clippings, coffee grounds, chicken and pigeon droppings (no dog, cattle, or cat waste) to the can and periodically add water and sawdust shavings and do your best to mix it up. Cover with a lid, mix occasionally and let it set until it looks and feels like soft loam. Do not add "hot" material to your garden until it is decomposed. Adding chicken waste too soon, for example, will rob your plants of nitrogen as it breaks down.

Prepare your soil by moving rocks, pulling weeds (by the roots to ensure they will not grow back), and tilling. Use the rented rotor tiller or shovel through the dirt thoroughly. Add your organic matter to mix

the materials. Smooth your garden soil, stand back, and decide what to plant. If you live in an area with a short growing season, you can do one of two things: Plant seedlings in indoor containers and wait until it is warm enough to transplant them outside; or buy plants that are already three to five inches high from a nursery. I have planted watermelon, pole beans, radish, and sunflower seeds before the danger of frost has passed, but I cover the area with a tarp to keep in the warmth.

Squash and zucchini will spread out, so make sure you have a distance of four feet between rows (and at least two feet between plants in the rows) where you plant them. Peppers, green beans, okra, onions, radishes, and so on, only need a few feet between rows and a foot or less between plants. Tomatoes will need support, so buy metal cones and place them around the tomatoes when the plants are young; if you wait until they are two feet high, the stems will break if you bend them.

I used to use a garden hose to water the plants, but that proved to be wasteful. Now I bury a soaker hose next to the plants and my rows "snake," that is, at the end of one row, the hose turns a corner and I plant seeds or plants around that corner alongside the hose. I have very little wasted space. I water once a day for fifteen minutes initially (in the evenings after the sun begins to set), and when the summer weather heats up, I water again in the mornings. If you have a soaker hose, then just turn on your faucet. I use an egg timer so I don't forget to turn it off.

The first year you may need no fertilizer. The second year I did not add organic material to the garden and used a commercial plant food (such as Miracle-Gro) every two weeks instead. Depending on your environment, sometimes the plants at the end of your soaker hose do not get as much water as they need, which is why you should plant the vegetables that need the most water (squash, melons, tomatoes) toward the "beginning" of the hose and place peppers toward the end. To make up for this deficit, I use Aqua Cones, which are plastic cones about six inches long that you place into the ground with a two-liter bottle (such as from a cola drink) attached to it. After cutting the bottom out of the container, add water to the bottle, and it will go directly to the plant roots. You can order them at Gardeners Supply at http://www.vg.com/department.asp?DeptPGID=18252.

Recruit your family to assist you in pulling weeds. The more you water, the more weeds will proliferate.

**Planting the Three Sisters**

I plant the Three Sisters in different ways. One way is in rows, so that each plant is separate from the others (although this is not the "interactive" way to plant them). Another is to follow these instructions from NativeTech: Native American Technology and Art at http://www.nativetech.org/cornhusk/threesisters.html (although I do not create mounds and I put a soaker hose around each "circle" of plants).

1. In late May or early June, hoe up the ground and heap the earth into piles about a foot high and about twenty inches across. The centers of your mounds should be about four feet apart and should have flattened tops.
2. First, in the center of each mound, plant five or six corn kernels in a small circle.
3. After a week or two, when the corn has grown five inches or so, plant seven or eight pole beans in a circle about six inches away from the corn kernels.
4. A week later, at the edge of the mound, about a foot away from the beans, plant seven or eight squash or pumpkin seeds.
5. When the plants begin to grow, you will need to weed out all but a few of the sturdiest of the corn plants from each mound. Also keep the sturdiest of the bean and squash plants and weed out the weaker ones.
6. As the corn and beans grow up, you want to make sure that the beans are supported by cornstalks, wrapping around the corn. The squash will crawl out between the mounds, around the corn and beans.

Another way to plant pole beans is to use long green poles to form what looks like a tipi frame and plant pole beans at the base of the poles. By August my kids have a dense "wall" of green bean vines and leaves to hide behind. I also plant pole beans and cucumbers at the end of the

rows at the base of a tall circle of range fencing (the soaker hose curls nicely around the base) that they can latch on to as they grow up.

**Gardening with Pots**

Not everyone has land to cultivate a garden in the ground. When space is scarce or if the ground is rocky, polluted, or otherwise undesirable, you can use pots to grow many plants.

"Pot gardening" conserves water and adding nutrients is easier. It is easy to spot and pull weeds; moles, gophers, and other annoying pests cannot dig into the pots; you can arrange the garden in whatever ways you want, and according to the sunlight availability as the plants grow; and you can move the pots from outside to inside in case of cold weather, hail, and other bad weather.

Collect your materials and tools as follows:

A spade (a cheap one from a discount store) or a large, heavy spoon that will not bend.

Light gloves to protect your nails and skin.

Plastic pots, five-gallon paint buckets (cleaned, of course), or whisky barrels. The latter will fall apart after about five to seven years, however.

Get your children into the activity by allowing them to paint the containers with waterproof paints.

Small pebbles to add to the bottom of pots before adding the plant and soil (you can find them in your yard, by a creek, or you can buy a small bag of them).

If you are indoors, buy the "saucers" that the pots sit in so water will not drain all over your carpet or wood.

Unless you know you have fertile soil (that is also free of bugs and parasites), purchase a light potting soil.

Drill three to five holes in the bottom of those pots that have no drainage holes.

Most plants require a five-gallon container. Squash, cucumbers, pole or climbing beans need a half barrel.

Decide what plants you want to grow. I have grown peppers, eggplant, tomatoes, and many herbs in pots: mint, parsley, bay,

basil, oregano. It is difficult to grow root vegetables such as potatoes because they require much space and water. A half whiskey barrel might work with squash, cucumbers, gourds, and melons, although their "arms" will spill out.

**To Plant**

Buy plants or seeds. Since Flagstaff has a short growing season, I prefer to buy plants that are already three to five inches high. Sunflowers and beans are an exception (I cover seeds with a tarp to keep them warm). In warmer climates you can plant seeds after the danger of frost is over. In my large garden, I have had luck planting watermelons, pole beans, and radishes by seed. Go to a nursery and buy enough plants so that you have one plant per five-gallon container.

Put newspaper under your pot so you do not make a mess. Then put pebbles in the bottom of the pots and add soil to cover the pebbles.

Gently remove the plant from its container.

Place the plant in the middle of the dirt and gently spoon soil around the root ball. Do not pack the soil; drop it in so the soil is two inches from the top of the pot.

Water gently; do not use the garden hose unless it is turned low. A watering pail with a sprinkler end to the spout works best.

Intersperse your vegetable and herb pots with colorful flowers for a beautiful décor.

If deer are a problem, set out a circle of range fencing around your pots.

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# Become a Fitness Activist

**Look for Role Models**

Becoming a fitness activist is not difficult once you start living a healthy lifestyle. People who eat right and exercise possess more energy, think more clearly, can deal more adequately with stress, are successful in work and in their personal lives, and often serve as role models for others who want to improve their quality of life. Living a healthy life should not take much thought. Once you experience the benefits of taking care of yourself it becomes a priority to feed yourself and your family unprocessed foods and to make certain everyone exercises. Many fitness activists educated themselves about nutrition and exercise, while others had a role model to inspire them to learn. Take a look around you and read about historical Natives. Learn from who was, and is, mentally and physically healthy.

For example, the healthy *Raramuri* (or Tarahumara, as they were called by the Spanish) live in the Sierra Tarahumara in northwest Mexico. They live simply, in remote areas, in cabins or in caves. They eat what they have always eaten: beans, corn, potatoes, fish, herbs, rabbits, and more recently, beef and goat. One of their traditions is "foot throwing," a competition that involves a small wooden ball "thrown by the foot" by teams in a multi-day race. In 2004, Raramuri runners participated in the biannual Copper Canyon to Canyon Trail Marathon, between Urique and Batopilas in Mexico. The course covers a distance of twenty-seven to twenty-nine miles of steep rock that ranges up and down for thirteen thousand feet. Seven of these runners completed the race in a little over five hours. Runners who want to participate in the 2005 race will pay three hundred dollars in order to cover the prize money and accommodations for the *Raramuri* (see http://caballoblanco.com/raceagain.html).

Not everyone buckles in to the pressure to eat badly. Indigenous people aware of nutrition often talk "diets" with each other. During one

exchange about food, Michael Yellowbird, the director of the Indigenous First Nations Program at the University of Kansas, for example, told me about his determination to eat properly:

> This morning, I had two fried (in organic, virgin olive oil) free-range eggs with most of the yolks removed, two pieces of whole grain organic toast with olive oil instead of butter. I spread organic blueberry jam, which used only organic grape juice as sweeter, on the other, and washed it down with a glass of organic apple juice, which was half diluted with filtered water. This afternoon, I had a free-range chicken sandwich made with organic whole grain bread and a bit of pepper-jack cheese, small bag of "naturally" baked potato chips (with a great taste, smart-snack seal, and zero trans fat), and half a cup of sugary lemonade. Tonight, I will have a great organic salad with Jana's [my partner] famous olive oil dressing, plenty of vegetables, lots of water, and some kind of protein.

The same day that Michael and I corresponded, I heard from Robert Redsteer, a Navajo at Northern Arizona University:

> Over the weekend, my brother was home and he loves Navajo tea. So I was out early Saturday morning gathering wild Navajo tea for him. I "processed" it while baking a batch of oven bread for the family. My oven bread is made with unprocessed wheat flour, yeast, very little salt, and an even smaller amount of oil, sometimes I will use honey. I need to get into the forest and cut some wood, as my supply of wood fuel is almost non-existent.

There are thousands of role models to emulate, but there is no reason we cannot become good role models ourselves.

**Action You Can Take**

Good health is not an accident. With all the food choices, pollution, deceptive ads, and cheap prices, it is easy to become lazy and succumb to unhealthy meals. You must be diligent and you must be aware of what

you consume. If you truly want to make a difference in your health and the health of your family and tribe, you must do the following:

Educate yourself about nutrition. Buy or check out books that inform you about nutrition and fitness.

After you are educated about nutrition, stop blaming the local fast-food restaurants for your obesity. Blame yourself and do something about it.

You can, however, blame the food industry for targeting children. Celebrities make a small fortune representing unhealthy foods. Ignore them. Take action and protest with your wallet: Do not buy their foods.

Many restaurant and food-product companies serve as sponsors of educational materials, so children are exposed to their advertising all the time. When your child takes a healthy lunch to school and is kidded about what is in his or her lunch box, teach your child to say, "I like it." When asked why they do not eat junk food, your children can say, "I don't like it."

Take a stand at home and limit the amount of time the kids (and you) watch television or play video games, surf the Web, and so on. Make rules and stick with them. If my kids watch television for half an hour, they have to play outside for half an hour. The only snacks allowed in front of the television is fruit.

Learn about the food your tribe consumed. Ask yourself why you cannot also start eating like this. What are the drawbacks? What is the expense?

Many food advertisements are deceptive and manipulative. Question what you are buying: Check labels and do not buy foods that you now know are fatty, greasy, salty, and sugary.

Be aggressive at restaurants. Ask for doggie bags, ask the waiter to take away the breadbasket, and do not eat everything on your plate.

Buy healthy food for your family. Children usually do not have the luxury of picking out what they want, but you do.

Do not give your children lunch money when there is a chance they will buy soft drinks, cookies, and French fries. Spend some money and make their lunches. The investment is well worth it.

Campaign your school board or tribal council for healthier food at schools.

Volunteer to be an educator about health and fitness at schools, tribal council meetings, and neighborhood meetings.

Start an exercise and diet group among your friends. Meet everyday at designated times to walk and to talk about healthy recipes. Have potlucks—no junk allowed.

Organize a cookbook of your tribe's traditional meals.

Start a community garden where everyone can pitch in and help and later reap the rewards.

Show by example. If you start eating right and exercising, then others will see what you are doing and they will do the same. Be prepared to answer questions.

There are works to turn to if you want more information about what to eat, the politics of food production and marketing, and how to maintain a healthy lifestyle. National magazines, such as *Time*, *Newsweek*, and *Consumer Reports*, consistently feature articles that describe the latest discoveries in nutrition. I believe that *Men's Health* offers the best advice for diet and exercise, although females will want to be alert to articles that stereotype women and women's bodies. It is available at newsstands or on the Web at www.menshealth.com, where you can purchase articles on-line. These same publishers are now offering a magazine specifically geared toward women; you can find it on the Web at www.womenshealthmag.com. Another source of information is *Outside Magazine* that often features articles on health and fitness. See www.outsideonline.com.

There are several recent, eye-opening books I recommend, most notably Kelly D. Brownell and Katherine Battle Horgen's *Food Fight: The Inside Story of the Food Industry, America's Obesity Crisis, and What We*

*Can Do About It* (New York: McGraw Hill, 2004); Greg Critser's *Fat Land: How Americans Became the Fattest People in the World* (New York: Houghton Mifflin, 2003); Eric Schlosser's *Fast Food Nation: The Dark Side of the All-American Meal* (New York: Houghton Mifflin, 2001); and Marion Nestle's *Food Politics: How the Food Industry Influences Nutrition and Health* (Berkeley: University of California Press, 2002). The movie *Super Size Me* (2003) gives detailed and startling discussions about the food industry and just how abnormal and deadly the American diet has become. I took my kids to see this one. A rich source of information about Indigenous knowledge that includes farming, agriculture, and food restoration is at http://topics.developmentgateway.org/ik. A book that I have turned to for thirty years is Gayelord Hauser's *Diet Does It* (New York: Coward-McCann, 1944). Anytime I feel out of sorts, I eat his suggested regimen of fruits, vegetables, and yogurt and I feel completely different.

Finally, do not let anyone discourage you from your goal of becoming fit. Often times spouses, friends, and children are wary of something new and it is not unheard of for those close to us to try to sabotage our intentions. Keep in mind that no one can make you fat and unhealthy without your consent.

# Indigenous Recipes

Indigenous peoples in North and South America had a cornucopia of foods available and, because they did not have Old World foods to mix with them, they obviously did not have as many choices of condiments and spices as we have today. Still, we can stay close to the original recipes, and nothing much can beat the connection to culture and the pride one feels by preparing food in the "old way," such as gathering wild onions, cultivating crops, and grinding corn for hours.[1] But because we do have choices, and because many of us have limited time to spend in the kitchen and at the grinder, you will see here that some of these dishes feature some Old World foods, mainly spices such as garlic, rosemary, oregano and so on. As mentioned in the introduction, these Old World ingredients will be marked with an asterisk symbol (*). In addition, some preparation tactics are different from historical methods. The following recipes were created by the author unless noted otherwise.

**Experiment with Foods**

One way to start on the road to better health is to learn as much as you can about unprocessed foods. Here is a list of some healthy, vitamin- and mineral-rich foods from both the Old and New Worlds. Make a star by the foods you like and cross out the ones you know you probably will never eat, either because you have no access to it (such as mink, perhaps) or because you have an allergy or you simply cannot stomach it.

FRUITS

apples
apricots
avocado
bananas
blackberries
buffalo berries
cantaloupe
cherries
chokecherries
crabapples
currants
figs
grapes
grapefruit
hackberries
huckleberries
lemons
limes
loganberries
mulberries
nectarines
oranges
peaches
persimmons
pineapple
plums
prunes
raspberries
strawberries
tangerines
tomatoes
watermelon

VEGETABLES

agave
artichokes
asparagus
beans
broccoli
Brussels sprouts
cabbage
carrots
cauliflower
celery
chard
collards
corn
cucumber
eggplant
kale
leeks
lettuce
lima beans
manioc
okra
olives
onions
parsnips
peas
peppers
pumpkin
prickly pear cactus
radish
rhubarb
spinach
squash
string beans
sweet potatoes
tomatoes
turnips

watercress
watermelons
white potatoes
yams
zucchini

NUTS, SEEDS, AND BULBS

acorns
camas bulbs
hickory
mesquite
pecans
piñon
sunflower
walnut

MEATS

alligator
antelope
bear
beaver
brill
caribou
carp
catfish
clams
crane
deer (mule and white-tailed)
duck
eel
elk
fox
frog
grouse
hare
hedgehog
heron
lark
lynx
martin
mink
moose
muskrat
mussel
otter
oyster
panther
pike
porcupine
prairies chicken
prairie dog
ptarmigan
quail
rabbit
raccoon
rattlesnake
salamander
salmon
seal
shad
skunk
smelt
sturgeon
trout
turkey
turtle
walrus
whales
wildcat
wolf

GRAINS

buckwheat
cassava
cattail
rice (brown)
rice (wild)
wheat germ

SWEETS

honey
maple syrup

Browse the Web sites http://www.nutritiondata.com/index.html and http://www.formulaforlife.com.au/asp/vegetables.asp for more information about specific foods in the following recipes. Try out foods you are not familiar with, or try cooking familiar foods in different ways: baked, boiled, braised, in casseroles, as chips, fried, grilled, mashed, microwaved, as pancakes, pickled, in relish, chutney, and jam, roasted in salad (cooked), in salad (raw), on sandwiches, steamed, in soups, stir-fried, steamed, stewed, stuffed, or as a filler.

Because many people must watch their calorie intake, it is important to find substitutes for those fattening foods that are off-limits. Try spices to make your dishes tastier. You do not have to buy an entire bottle of a spice; see if your neighbors have an herb you want to try before buying it. Some to consider: basil, bay, capers, caraway, cardamom, cayenne pepper, celery, chives, cilantro, cinnamon, clove, coconut, coriander, cumin, dill, fennel, garlic, ginger, horseradish, lavender, lemon grass, lemon peel, licorice, lime, marjoram, mustard, nutmeg, olive, onion, oregano, paprika, parsley, pepper, peppermint, poppy, pumpkin, rose, rosemary, safflower, saffron, sage, sassafras, savory, sesame, thyme, turmeric, vanilla, wasabi, white pepper, white mustard.

**Kitchen Equipment**

Equipment for these recipes is for the most part inexpensive, although you may not want to skimp on the food processor and bender. I have a variety of cooking "toys" but the ones I use repeatedly are my blender, outdoor grill, electric slow cooker, food processor, knives, garlic press, tea kettle, nonstick skillet, kabob skewers, and large spaghetti pot (with a colander that fits into it). Slow cookers are very affordable and can be obtained at most discount or department stores. If you have a large family, or of you do most of your cooking on the weekends and freeze food for the week, consider buying two slow cookers so you can cook more than one dish at a time.

# APPETIZERS

## Guacamole Dip

*Avocados are a rich and highly nutritious fruit that can be mixed into a dip or sliced for salads or on sandwiches. Avocadoes also are high in calories, so be aware of how much you consume. This recipe is the basic guacamole dip and can have many other items added to it, although we like it just as it is here.*

INGREDIENTS:

2–3 ripe avocados
1 cup diced ripe tomato
¼ cup finely chopped sweet onion
*1 finely chopped garlic glove to taste
½ cup chopped roasted and peeled green chilies (optional)
juice of ½ lime
salt and pepper to taste

Halve and pit the avocados and scoop insides into a bowl. Add remaining ingredients and mash with a fork or potato masher. Serve with homemade baked tortilla chips.

## Summer Salsa

*I call this Summer Salsa because I can make this from almost everything I grow in my garden. In colder months, we have to substitute grocery store tomatoes and corn; look for "hot house" tomatoes and "sweet" corn. My family eats gallons of salsa. Like the green chilies, salsa goes on almost everything and is a staple in our home.*

INGREDIENTS:

6 cups tomatoes (we like the small cherry tomatoes, but the larger ones work well too, as long as they are sweet)
1 cup sweet corn
1 cup roasted and peeled green chilies (mild, medium, hot, or extra hot)
1 tablespoon vegetable or olive oil
*garlic to taste
sea salt and black pepper to taste
½ cup cooked and drained black beans

In a food processor, add 2 cups of fresh-sliced tomatoes, 4 or 5 green chilies, garlic to taste (I use several cloves), black pepper and sea salt to taste, 1 tablespoon of olive oil, 1 15-ounce can of drained and rinsed sweet corn (or corn off the cob) and 1 15-ounce can of drained black beans. Experiment with how smooth or chunky you like your salsa. Add and subtract according to the size of your processor and the ingredients you like best.

## Super Dip

*All that is required here is imagination and a chopper. You can use as many kinds of vegetables as you want. This is one example.*

INGREDIENTS:

1 cup of the salsa above, finely blended
½ cup diced bell pepper
1 cup hominy
½ cup wild onions (or the small white onions from the store)
1 chopped jalapeño (or if you prefer mild, use ¼ cup of pickled jalapeños)

1 cup black-eyed peas
salt and pepper to taste

Mix in bowl, cover and let sit for at least 12 hours so that it will marinate. Serve with homemade tortillas.

## Baked Tortilla Chips

There are two ways to make these. The first is easy because you simply take corn tortillas from the store, cut each into strips or into pie-shaped wedges, spray each lightly with cooking spray, and sprinkle with spices such as garlic, salt, cumin, and so on; then place on cookie sheet and bake at 350 degrees or until tortilla chips are brown.

The ambitious way is to grind your own corn or buy cornmeal, then roll into golf-ball-sized balls and then flatten with a rolling pin. Cut into strips and bake at 350 degrees until brown.

# SALADS

## Everything Salad

*Clarence Bass, a sixty-four-year-old body builder, eats an enormous amount of food per day, carefully chosen, including a huge salad consisting of bell peppers, broccoli, cabbage, carrots, celery, collard greens, green beans, lettuce, mushrooms, mustard greens, onions, radishes, spinach, sprouts, squash, and tomatoes, yet he maintains an astonishing 5–6% level of body fat. (Go to http://www.cbass.com/ for more information about his diet and exercise.)*

*This salad can serve as a side or as lunch or dinner, especially if you add lean chicken, ham, or turkey. The ingredient amount can be altered depending on the size of your salad bowl; what is listed here is intended for an extra-large bowl. I always take this to potlucks.*

INGREDIENTS:

| | |
|---|---|
| *5 | cups spinach, or variety of greens such as young dandelion, lamb's quarter, or mint |
| 1 | cup cherry tomatoes |
| 1 | cup green beans |
| 1 | cup sweet corn |
| *1 | cup sweet peas |
| 1 | cup shredded carrots |
| 1 | cup sliced mushrooms |
| *½ | cup shredded mozzarella cheese |
| ¼ | cup sunflower seeds |
| *3 | hard-boiled eggs, cubed; try duck or turkey eggs |
| 1–2 | avocados, sliced |
| *½ | cup picked beets |
| *¼ | cup black olives |

Add all ingredients to a large bowl. Ingredients can be changed depend-

ing on what you like. We prefer low-fat Italian dressing, although many people prefer it "dry."

## Poke Salat

*One of my father's favorite dishes was poke salat, although he would also be happy with any kind of deep-green, leafy vegetable such as collard or turnip greens.*

INGREDIENTS:
young poke salat leaves (with tender shoots)
black pepper
vinegar
*ham (optional)

I prepare the leaves by placing them in the top part of a spaghetti pot and steaming them. You can also tear leaves and shoots into small pieces and place in a pot of water, then boil for five minutes. Some cooks recommend that you rinse and then cover with cool water and boil again for another 5 minutes, in order to clean the vegetable thoroughly. Drain and place the poke salat in the pot with desired seasonings. Dad was happy with just black pepper, vinegar, and a small amount of butter.

## Strawberry and Spinach Salad

**By Taryn Abbott Wilson (Oklahoma Choctaw)**
*This is a delicious salad that covers many nutritional bases. You can also make other salads that combine vegetables and fruits. Raisins and dried cranberries, for example, sweeten all kinds of salads in addition to other dishes from pancakes to oatmeal to sautéed squash. Mandarin oranges and thinly sliced Granny Smith apples can also be used.*

INGREDIENTS:

3 cups baby spinach leaves
1½ cups fresh strawberries, sliced and stems removed
*1 peeled cucumber, sliced lengthways
1 small red onion, sliced thinly
¼ cup sliced almonds, roasted in small pan
*1 clove garlic, pressed (in garlic press)

DRESSING

2 tablespoons fresh-squeezed lemon juice
½ teaspoon lemon zest (the grated rind)
2 tablespoons white wine vinegar
1 tablespoon vegetable oil
*1 teaspoon poppy seeds
*½ cup sugar

The additional sugar is not desirable, however, unless you rarely eat sugar and can afford to have a little. Another option is to purée strawberries with orange juice and mix that in with the dressing.

Whisk together the dressing ingredients, then cover and refrigerate until ready to use. Roast almonds in small pan at 350 degrees or until lightly toasted (approximately 10 minutes). In a bowl, mix strawberries, spinach, cucumber, garlic, and onions, then cover with dressing and sprinkle with almonds.

# SOUPS AND STEWS

## Dakota *Waskuya* (Dakota Dried Sweet Corn Soup)

**By Waziyatawin Angela Wilson (Dakota)**

INGREDIENTS:
dried sweet corn
meat (venison, buffalo, elk, or beef)

*Waskuya* is a traditional Dakota soup, still eaten today at many of our gatherings. To dry the sweet corn: Boil corn on the cob and place on large platters. Place a towel over the corn and let it drain and slightly dry for at least 10 hours. Then shell the corn from the cob. Do not slice the corn from the cob with a knife, as you want the kernels to be intact. Use a butter knife or spoon to lift the kernels from the cob. When all the corn is shelled, spread it out on a sheet or tablecloth to dry in the sun. In Minnesota, this process usually takes 3–4 days, but this will vary depending on the climate and amount of sunshine. Bring the corn in each evening and return it to the sunshine in the morning. Keep it in the sun just long enough for it to dry thoroughly (it will make a rattling sound in your hand when you shake it), but do not let it stay too long in the sun because it can burn. Then place it in breathable storage containers. I often store the corn in pillowcases for the winter.

Because this is such a labor-intensive process, it is good to dry the corn in large quantities. I usually do my entire crop of sweet corn from my garden at one time. A word about drying the corn—some insects will get in the corn as it is drying but they leave as soon as the corn gets hard from the drying process. Do not worry about this. However, to prevent determined ants from climbing up to the platform and infesting the corn, it helps to provide them a handful of corn on the ground as an offering.

Cooking the corn: Rinse the dried sweet corn briefly before cooking

and then place in a pot of fresh water. Add the meat and cook a few hours until corn and meat are tender. You may also add *tipsinna* (wild turnips), or *taniga* (tripe) for added flavor and nutrition.

## Gazpacho

*There are a variety of ways to prepare gazpacho and it all depends on the types of vegetables you prefer. This is one version.*

INGREDIENTS:

- 3 cups puréed tomatoes (some prefer vegetable juice cocktail)
- 2 tablespoons lime juice
- ½ cup chopped green onions
- 1 small green bell pepper, diced
- 1 small zucchini, diced
- *1 small cucumber, diced
- 1–3 small banana peppers
- salt and pepper to taste

OPTIONAL

- *dill
- *garlic
- *parsley
- *basil
- *1 cup plain nonfat yogurt

Put all ingredients (except yogurt) into food processor or blender and mix until well blended, but still "dicey" (or chunky). Chill. Add yogurt on top, if desired.

## Elk Stew

*This is a family favorite. We take it to potlucks and parties and, every time, the pot is emptied almost immediately. Deer and moose can be substituted. Beef does not taste as good as venison.*

INGREDIENTS:

- 1 pound elk meat (the "jerky" cut works best, although roast is fine), cut into small cubes or slices
- 1 chopped green bell pepper
- 1 chopped bunch little onions (discard green stems)
- *1 clove garlic
- *1 bunch celery with leaves
- 5 cups cooked pinto beans
- 1 cup cooked hominy (optional)
- 1 jalapeño (optional)
- *3 cans low-sodium chicken broth or water, although broth is more tasty
- salt and pepper to taste

Sauté elk, bell pepper, onions, jalapeño, and spices with 3 tablespoons of vegetable oil. After meat is browned and vegetables are soft, place in a slow cooker with beans and chicken broth. Slow cook on high for 8 hours. Then switch to low-cook for at least 2 hours. We make the stew around 6:00 P.M. and cook it on high until around 2:00 A.M. (yes, you have to get up in the middle of the night; or, start earlier) then slow cook until lunch the next day.

## Eileen's Acorn Squash–Pumpkin Soup

**By Mary Jo Tippeconnic Fox (Comanche)**
*A recipe given to me by Eileen Luna Firebaugh (Choctaw-Cherokee)*

INGREDIENTS:

2 acorn squash or 1 large pumpkin
1 tablespoon oil
½ cup minced onions
1 red bell pepper, seeded and chopped
2½ cups vegetable stock or water
½ cups maple syrup or honey (optional) chopped pecans (optional)
salt and pepper to taste

Contemporary version of recipe uses 1 cup orange juice, 1 teaspoon ginger, and ½ teaspoon cumin or 1 teaspoon allspice for sweetening.

Bake squash or pumpkin (about 45 minutes at 400 degrees). Scoop out the squash or pumpkin and mash well. Heat oil and sauté onion and bell pepper. Add stock and all remaining ingredients and bring to boil and simmer for 35 minutes. Sprinkle chopped pecans on top.

## Choctaw Stew

*Every Sunday in winter my dad would announce that he was making "Choctaw Stew." I never knew what the significance of this stew was other than the makings are very simple and Indigenous, but he said that as he grew up in McAlester and Muscogee, his mother also made it at least once a week. The base of the stew is rather boring to my taste, so the ingredients labeled "optional" are my additions.*

INGREDIENTS:

3 peeled potatoes
*6 large peeled carrots
1 large chopped white onion
cooked corn of 5 cobs
3 cups cooked green beans
*1 cup sweet peas (unless your garden can grow sweet peas, use 1 drained can)
*5 cups chicken broth
salt and pepper to taste
*garlic to taste (optional)
jalapeños to taste (optional)
1 cup chopped, roasted green chilies (optional)

Dad put all ingredients into a large pot until it boiled. Then he allowed it to simmer for at least an hour, adding more chicken broth when needed. I prefer to add all the ingredients to a large slow cooker and let it cook on high for at least 6 hours—put it together in the morning when you leave for work and it is ready for dinner.

## Chicken Stew

*This is basically the same as Choctaw Stew, except that chicken is added and it is only cooked in a slow cooker.*

INGREDIENTS:

*3 boneless, skinless chicken breasts
*6 large peeled carrots
1 large chopped white onion
cooked corn of 5 cobs
3 cups cooked green beans
2 cups cooked pinto beans
*1 cup sweet peas (or use 1 drained can)

*5 cups chicken broth
salt and pepper to taste
*garlic to taste
jalapeños to taste
1 cup chopped, roasted green chilies

Combine all ingredients in a slow cooker and allow to cook all day on high. The chicken should be tender and will fall apart into small pieces. You can freeze leftovers. This smells especially good.

## Osage Strip Meat Soup (*Ta-ni*)

**By Andrea Hunter (Osage)**

INGREDIENTS:
3–4 pounds of buffalo meat, preferably from rump

Take the buffalo meat and, following the grain, cut into strips about as thick as one's thumb and about 1½ to 2 inches long. Wash meat. Put in kettle and cover with cold water, no more than 1 inch over the meat. Take a ladle and mash the meat. Put on fire to boil. Boil about 45 minutes to 1 hour with no lid. Serves 12 or so.

# MAIN DISHES

## Meat and Vegetable Kabobs

*This is a dish your kids can help make, although teach them that skewers can be sharp!*

INGREDIENTS:

Long metal skewers

1 pound meat of your choice (elk, deer, buffalo, turkey; salmon works nicely, too) cut into cubes
2 red, yellow, or green bell peppers, seeded and cut into squares
2 cups large whole mushrooms
2 zucchinis, cut into chunks
2 yellow crooked-neck squash, cut into chunks

If you use fish, the cooking time is less, around 2–3 minutes, depending on the thickness of the fish.

Marinate meat in either a baggie or covered bowl with marinade of your choice for at least 4 hours. Preheat the grill by allowing coals to burn for 15–20 minutes. Oil the skewers with vegetable oil then thread meat and vegetables onto skewers and "paint" on a thin layer of olive oil and sprinkle with pepper and other spices. Place the kabobs onto the rack and turn every 8 minutes until the meat is done. Be sure to wear oven mitts when handling hot skewers.

## Elk Steaks

*My husband, Josh—and now my son, Toshaway—usually brings home an elk every year, enough to keep our freezer stocked with meat for stews, jerky, and for what we really like: steaks. Game meat is lower in fat than beef and does not contain the additives that cattle receive. If you are not a hunter, then ask someone who is if you could contribute something to their next hunting trip (food, or perhaps loan camping gear or an* ATV*) so they can repay you with meat.*

INGREDIENTS:

1 onion, sliced (optional)
5–6 large roasted and peeled green chilies of your choice of "hotness" (optional)
2 cups of sliced mushrooms (optional)
pepper to taste

MARINADE

*1 clove crushed garlic
½ white onion, minced
*½ cup low-salt soy sauce

Put the meat into a plastic container and cover with marinade for at least 4 hours. You can either cook the meat in a frying pan with 1 tablespoon of oil, with the other ingredients piled on top, or on the grill with the vegetables grilled separately. Turn after 5–10 minutes.

## Good for Your Heart Fried Moose Meat

**By Brad Young (Cree)**

*Many meats are prepared by frying in lard, vegetable shortening, or other unhealthy oils. Use olive oil instead. For this one, Brad suggests using the natural meat juices instead of soy sauce.*

INGREDIENTS

2 pounds moose meat
*½ cup olive oil (extra light)
seasoning salt

Cut moose meat into thin strips approximately 3–4 inches in length. Pour olive oil into large deep-walled frying pan (not heated up yet). Place moose meat into frying pan. Cover frying pan so juices cannot escape. Turn heat to medium high and keep there until meat is boiling in juices and oil. Reduce heat to maintain high simmer. Stir meat occasionally. Add seasoning salt to taste. This is best served over mixed brown and wild rice with vegetables and *bannock.

## Venison Burgers

*There are many ways to make burgers, but one thing should always be the main ingredient: very lean meat. I do not eat burgers with bread, but I can add enough other items to make this filling.*

INGREDIENTS

1 pound lean, ground venison
½ cup chopped onions
*garlic to taste
pepper to taste
whole peeled and roasted green chilies
1 cup summer salsa; see recipe under Appetizers (optional)

Mix the meat and other ingredients, then form into balls slightly smaller than tennis balls (we prefer larger burgers, and they do "shrink" down a bit while cooking). Flatten for cooking. I cook burgers in a pan and put low-fat cheese on right before serving, although you can also cook them on a grill. With tomatoes, pickles, onions, catsup, and lettuce, I do not need a bun, but others can use whole wheat.

I often stretch the recipe by adding ½ cup of seasoned (Italian) breadcrumbs. Not only does this make more burgers, it also "plumps" them up. If you have kids or picky adults in the house, you can add very finely chopped spinach to the mixture as a way of sneaking in the vegetable to their diet.

## Salmon

*Salmon is a staple for many Native households, with a variety of ways to prepare it. We usually broil salmon (or we smoke it in our smoker), but check with tribes in the Northeast and Northwest, however, for dozens of cooking suggestions.*

INGREDIENTS
salmon fillet (how big depends on how many people will be at your table)

OPTIONAL
(because many people like it grilled or baked without any spices)
lemon juice
salt
pepper
*garlic (powdered or freshly chopped)

Lightly cover the fillet with the ingredients, then bake in lightly oiled baking dish for 20–30 minutes.

My friend, Waziyatawin Angela Wilson, made delicious salmon one year when we visited. She marinated the large fillet for 2 hours with the juice of 1 lemon, 1 cup of white wine (the alcohol evaporates in cooking), and a small container of fresh pesto sauce (you can purchase this in the deli area of most grocery stores).

Bake in a glass baking dish for 20–30 minutes, depending on the thickness of the fillet.

## Osage Pounded Meat (*Ta-pashe*)

**By Andrea Hunter (Osage)**

INGREDIENTS
roasted flank of buffalo meat
chopped pecans
honey

To roast the buffalo flank, put it on a rack over an open fire and turn frequently until well browned. If you have to roast it indoors, using 6 to 10 pounds of meat, wrap it in two sheets of heavy duty aluminum foil, with the seam on top. Put this in a roasting pan and slow-roast it in the oven at 200 degrees for 10 to 12 hours. Finally, pound the dried buffalo meat strips until as fine as meat that has been run through a grinder. Add pecan nuts and honey, forming mixture into small balls.

# VEGETABLES AND SIDE DISHES

## Baked New Potatoes

*Instead of French fries, try these along with your burgers. My kids would eat them every night.*

INGREDIENTS

10–30 red new potatoes
3 tablespoons olive oil

OPTIONAL SPICES (ALL TO TASTE)

salt
pepper
*garlic
*oregano
*rosemary

Scrub new potatoes and cut them into fourths with the skins on. Place in large baggie and add a few tablespoons of olive oil (just enough so the spices will stick), and sprinkle in pepper, oregano, rosemary, and whatever spice you like, but go easy on salt. Place on a cookie sheet and bake at 350 degrees for 15 minutes, then turn the pieces over with a spatula and bake for another 15 minutes.

## Vegetable Sauté

*This is a quick and easy way to eat your vegetables. Take any combination of vegetables (or just one vegetable).*

INGREDIENTS

2–3 yellow squash, sliced lengthways
2–3 zucchini, sliced lengthways
1–2 cups sliced mushrooms
3 large sliced tomatoes
*1 cup broccoli florets
*1 cup cauliflower

Cover a nonstick pan with vegetable spray or a few tablespoons of vegetable oil. Cover the pan with 1 layer of vegetables, sprinkle with a favored condiment such as pepper, garlic, oregano, and so on, then cook over medium heat and turn after 10 minutes. Turn to low, cover and simmer until vegetables are tender. These vegetables also work well in a small, electric grill. Spray the thin-sliced vegetables with cooking spray and sprinkle with spices before cooking.

## Sweet Taters

*My daughter loves sweet potatoes and this is the way she eats them. Although she insists on using a sprinkle of brown sugar, I refuse to argue with a kid who loves a food so full of vitamins A and C plus niacin and potassium.*

INGREDIENTS

1 sweet potato
1 tablespoon brown sugar

Scrub the skin of the potato (no need to peel it) and poke a few holes in it with a fork. Wrap in foil and bake at 350 for 30 minutes, or microwave

(without foil) for 7–10 minutes or until soft. Cut open and sprinkle with brown sugar. I think the potato is sweet enough by itself.

## Boiled Okra Soldiers

**By Pamela Jean Owens (Cherokee)**

*Okra is indigenous to Africa. It is a good source of copper, niacin, phosphorus, potassium, protein, riboflavin, zinc, and a very good source of calcium, fiber, folate, magnesium, vitamins A, C, $B_6$, and thiamin. It is low in saturated fat, sodium, and cholesterol. This dish is called "okra soldiers" because the children get to eat them with their fingers and line the caps up around the edge of the plate. The one with the most caps wins. Many adults like fried okra better, but this is much healthier and, besides that, slimy, boiled okra is fun to eat. You can think of each cap as what is left of a cavalry soldier who lost.*

INGREDIENTS

*freshly picked tender okra

This okra recipe does need seasoning with butter, and usually salt and pepper. Aunt Jean would add a little sugar too. Adults like to put pepper sauce on it (that is, vinegar that you keep in a bottle with hot peppers soaking in it). Kids usually think that it is too sour. Okra tastes really good as the green part of a meal with black-eyed peas and corn bread as the main course and fruit of some kind for dessert. Fresh sliced tomatoes make a good salad, along with raw carrot sticks or raw slices of small, yellow crooked-neck squash.

Pick the okra as close to time to cook it as possible. Wear gloves and use scissors or a sharp knife; okra is prickly. Wash it well. Leave it whole and do not cut the tops off. Pick as much as you think everyone you are feeding will eat, but do not leave any large pods on the plants or they will just get tough and you will not get to eat them later. It is hard to

have too much of this anyway. If you buy it at the market, try to cook it right away. Refrigerate it in the meantime but do not wash it until you are about to cook it.

Cover the whole okra with water in a saucepan. Put a bit of salt in the water. Bring it to a boil and cook until done. You can use more water and leave the lid off, or use less water and put the lid on, over a lower fire. It will look slimy when it is ready. Do not worry about overcooking; it does not really change much if you keep cooking it after it is done. Drain off the water and serve with some butter on top. Do not throw the water away until you check with the old people. They may want it for dessert (see below).

## Mamaw Helton's Creamed Corn

**As she told it to Pamela Jean Owens**

INGREDIENTS

Very fresh sweet corn on the cob, shucked

A little butter, salt, and pepper to taste is optional. Something to sweeten it can be added. However, if it is needed, then the corn probably is not fresh enough in the first place.

Tools needed: Skillet, very sharp knife, cutting surface, spoon (wooden is best)

Pick enough corn for the crowd you are having and the time you have to prepare it. It is not possible to have too much. Shuck and wash, removing as many threads as you possibly can. They get stuck in the elders' teeth and the point of this dish is to make corn for the old people (some of whom do not have many or very good teeth any more) and the littlest people (who may not have many teeth yet). The problem is that it is so delicious that everyone else will want some too.

Stand an ear of corn on end on your cutting surface, biggest end flat on the surface and small end up.

Take a sharp knife and start cutting down the kernels, starting at the smaller end, but cut off just the tops, not the insides of the kernels.

As you go, you will have to scrape the corn off the knife and stop to scrape it into your skillet so that you keep having room to work. Be careful because it is easy to cut yourself. Give the children something else to do so they do not come stick a finger in to taste while you are cutting. Sending them to pick something else from the garden or to shuck peas are good ways to keep them out of the way of the knife.

When you have gone all the way around the ear, go back to the top and scrape the inside of the kernels out, going all the way down and as deep as you can, but scrape, do not cut. Again, go all the way around doing this until you cannot get any more corn out.

Put it all in the skillet and stir it up. Cook it very slowly, stirring a lot. You may need to add a little bit of water to keep it from sticking as you cook, and to keep it from drying out, but do not let it get runny. You want to cook it down so it comes out creamy.

Cook it down really well, then season with salt and pepper and butter, to taste.

Remember, fresh is very important in the corn.

That's it. Now eat it while it's hot.

## Osage *Yonkopin* (*Tse-wa-the*)

**By Andrea Hunter (Osage)**

Yonkopin *and* chinkapin *are both Native terms for the* Nelumbo lutea *plant, also known as American lotus.* Nelumbo *means "sacred bean."*

INGREDIENTS

*Chinkapin*, roots and seeds

The roots look like long sweet potatoes and the seeds like small round chestnuts. Large quantities of *yonkopin* roots are pulled up in the fall and eaten raw or boiled if they have been dried. The *yonkopin* seeds are

collected and eaten raw, or dried and stored for later use. To process the roots for storage, scrape the outer skin off the long root. The bare root is then cut into 1- or 2-inch pieces and strung together by thongs in 30-piece strands. The strands of *yonkopin* roots are then hung up outside to dry on wooden frames like those used for jerking meat. To prepare the dried root, boil until tender and add salt.

## Chahta *Tamfula*

Tamfula *is another Choctaw dish that can be prepared the "long way" (that is, grind and soak the corn and filter it with wood ash then boil all day) or it can be simplified for our fast-paced lifestyles. I make enough in a slow cooker to last for 3–4 days and eat it alongside vegetables, in soup, and by itself with salsa on top.*

INGREDIENTS

3 cups ground corn
*6 cups water or chicken broth depending on taste preference

If you use a smaller pot, then use 1 cup of corn and 3 cups of water.

Place ingredients in cooking pot and boil for 3 hours or until the mixture is soft. Traditionally, the dish was boiled for hours, sometimes all day, but if you cannot stand in front of a stove that long, then use a slow cooker instead. Set on high and cook for 4 hours. You will need to stir it often during the first hour and check periodically to make sure it does not dry out. Add water or chicken broth when needed. This recipe is similar to other corn dishes used by other tribes. Some like sugar or cinnamon sprinkled on top.

I prefer a variety of additional ingredients mixed into it:

INGREDIENTS

1 cup cooked pinto beans

½ cup green chilies
½ cup diced hickory nuts
½ cup diced turkey breast
½ cup sweet corn (redundant, but it intensifies the corn taste of the entire dish)
*½ cup sweet peas
pepper to taste
*garlic to taste
*diced or shredded ham

## Chickasaw *Pashofa*

**By Matt DeSpain**

Pashofa *(or* pishofa, picofa, tunchie pashofa, tash pishofa, *or* tansh-pa-shoo-phah, *depending on the reference) is a traditional Chickasaw dish that has been a part of the Chickasaw diet for generations, and is essential to Chickasaw culture, ceremony, and identity. Though its meaning, traditions, and uses among the Chickasaw have changed over time, the dish remains a part of Chickasaw identity today. It is* the *traditional dish of the tribe. The first historical mention of the dish came from James Adair, in 1775, but certainly the dish (or a type of it) was part of Chickasaw diet and ceremony long before then. Today's* pashofa *uses pork but James Adair mentions venison in 1775. Using elk, venison, or bison would be fine. Note the similarity between this and the Choctaw dish* banaha.

INGREDIENTS

1 pound cracked corn (pearl hominy)
*1 pound fresh pork (meaty backbone)
2 quarts water (add more if needed)

Wash and clean corn. Bring the water to a boil and add corn. Cook slowly, stirring often. When the corn is about half cooked, add the meat to the mix. Cook until the meat and corn are tender and soft. The mixture

should be thick and soupy. Cooking time is about 4 hours. Do not add salt while cooking. Each individual salts it to his or her own taste.

## Pinto Beans

*Beans cooked in a slow cooker are a staple of Flagstaff winters. If you make too much, you can always freeze the leftovers in small plastic containers for individual servings. Beans are a wonderful all-around food that has no cholesterol and is high in fiber, folate, protein, and other vitamins and minerals, but low in fat and sodium.*

INGREDIENTS

4 cups dried pinto beans
*8 cups unsalted chicken broth or water

OPTIONAL

*3 large sliced carrots
1 large chopped white onion
*garlic
*black pepper
salt

Soak dried pinto beans in large pot overnight (placing beans in a spaghetti colander, then putting them in the pot of water makes it easier to drain). In the morning, rinse and drain; then place ingredients in slow cooker along with chicken broth and spices. The longer you can cook this, the better the beans taste. Serve over corn bread and top with salsa and shredded cheddar cheese.

## Green Chili

*Green chili is a staple in many Southwest and Mexican homes and there are numerous ways to prepare it. I prefer it as simple as possible, right from the roaster at the farmer's market then peeled and sprinkled with salt. A bowl of green chili, however, is the more popular way to eat it.*

INGREDIENTS

6–12 roasted, peeled, and deseeded green chilies
1 onion, chopped
*3 cloves garlic, minced
1 pound lean pork, elk, or venison, cubed
(although pork is the most popular)
½ lime juice
*1½ cups chicken stock
salt and black pepper (to taste)
1 tablespoon olive oil (to taste)

OPTIONAL

chopped potatoes
hominy

Add green chili, onion, garlic, and spices to cooking pan and stir. Add meat and stir; then add limejuice.

Add chicken stock until the meat is covered. Stir well and reduce to simmer. Cover for 30 minutes. Stir occasionally to ensure nothing sticks to the pan. After 30 minutes, add more chicken broth if the mixture has become too thick. We like it thick, however, and eat it with rolled up corn tortillas.

## Grilled Corn on the Cob

*Grilled corn on the cob is also a staple in many homes and it tastes great when grilled outdoors along with other vegetables, like zucchini and mushrooms, and with an elk steak.*

INGREDIENTS
6–12 ears of corn, husks on

OPTIONAL
*garlic
salt and pepper to taste
*barbeque flavor sprinkle

Preheat your outdoor grill and "paint" the grill with oil. Peel back the cornhusks and remove the silk. It is optional to add spices and some butter on the corn before closing the husks. Wrap each piece of corn in aluminum foil and put on the grill for about 30 minutes. Turn occasionally.

Also, to make the corn tender, try soaking the corn with husks on before cooking. Some like to add a few tablespoons of sugar to the water to make the corn sweeter. Others do not wrap the corn in foil, but they turn the corn often so it will not burn.

Be careful with butter and flavor sprinkles (like the ones you see at carnivals and at farmer's markets), as you can add hundreds of unwanted calories and many milligrams of sodium in just a few seconds.

## Luiseño *Weewish*

**By Joely De La Torre (Luiseño)**

*This recipe has been passed down through generations. The elders enjoy talking about gathering and preparing* weewish *and long to do it more frequently but cannot, due to the tedious preparation. In fact, this particular*

*recipe is from 1975 from Pechanga elders who at the time were aged ninety-six and eighty-four. Most importantly, preparing* weewish *contributes to family bonding and provides a time to share stories and songs. The elders in their discussion of preparation also encourage the young people to continue the tradition.*

### GATHERING

Gather acorns during the summer months until the rainy season begins (late summer or early fall). Luiseño people gather their acorns from the Palomar Mountains.

The meat of the acorn must be firm and dry (once they are wet they are no good). The centers of the acorn should not be black or dark brown, this is usually a sign that they were harvested too late in the season. The nut should be a yellowish color. Gather both small and medium size acorns. Small acorns, called *gunite*, are considered by some to have a better taste. Large acorns, called *weeowkt*, taste dry.

### CLEANING

Remove the shell from the acorn by hammering the flat end of the acorn with a hammer stone. The acorn should split into thirds or halves but not into small pieces. A good size hammer stone would be about 2 inches wide and 6 inches long, weighing about 2 pounds, and should be smooth and rounded. Place acorns on cookies sheets out in the sun to dry. This process can take several days. You may use the oven, but using the oven turns the acorn black, which changes the taste.

To test the acorns for dryness, insert your finger into the center of the acorn meat. Once dry, place the acorns on a large flat basket and begin tossing them in the air and blowing off any skin, hide, or what is referred to as *quedo*. Pick up a few acorns in your hands and rub them together so as to take off the dry outer skins. About 60% of the skin is removed by this method. Take a pairing knife and remove what skin is left.

### GRINDING

Place the cleaned acorns through the meat grinder; you will get half the amount of acorn you started with. Sift until it makes a fine grain. Use a large oval rock with a hollow middle and grind the meat with a smaller

one in hand until the acorn meal is very fine. Place this in the sifter for one last time. Now you will have the amount you started with. Pound the meal to remove air from the acorn meal.

### LEACHING AND WASHING

Use a small window frame and set it on two boxes over a large pot of water. Use fine cheesecloth and put this over the screen that is on the frame; then pour the acorn flour onto the cheesecloth, straining it into the pot. Once all the meal is covered by a layer of water, stop pouring until all the water soaks through the meal and repeat the process at least 20 times. With a water dipper, now add cold water. Let the water run through your fingers slowly so as not to splash the flour out of the pot. The water will soak through the meal, and this should be done at least 20 times, until the meal looks clear and clean of all foreign specks. Taste to be sure that the bitter tannic-acid taste has been removed by this leaching process. If so, let stand until all the water has drained completely out.

### COOKING

You can use a wood stove or cook outdoors over a campfire or a gas stove to better control the heat. Set the pot of meal on the gas burner and cook under a low flame for an hour. Stir frequently so as not to burn it. As it thickens, add water. In the last 15 minutes of cooking, add three times as much water as meal. Taste to see if it is done. Drop a little meal in a glass of cold water, if it stays together and drops to the bottom, it is done. If it falls apart in this water, it needs more cooking. Now you have *weewish*.

You can add various berries and nuts to your *weewish* for taste. Acorn meal can be substituted for cornmeal in most recipes. Acorns can also be used in place of chickpeas, nuts, peanuts, and olives in a variety of dishes. Acorn meal is excellent in soups and stews.

## Wild Onions

*Each spring, Choctaws head out to look for the 6- to 12-inch stems of wild onions that feature inch-wide clusters of small white blossoms. Wild onions go into a variety of dishes and you can decide what you like best. I prefer them on top of baked potatoes, with scrambled eggs, and mixed with squash.*

INGREDIENTS

1 cup chopped wild onions (cultivated from an area away from cows and pollution)
cooking spray (or 1 tablespoon butter, if you must, or liquid from meat)
1 cup water

Cook the onions in the water until the water is almost gone, then use cooking spray or butter and add desired seasonings (pepper and garlic are what we use). Then either add stirred eggs and cook until done, or add onions to your other dish.

## Zucchini Canoes

*This is a good recipe for those giant zucchinis that many of us overlook in our gardens. It is hard to believe, but sometimes these squashes manage to hide under the wide leaves and grow to be more than a foot long. Many people use these giant squashes to make bread, but you can also make a side dish that kids will like, especially if you call them "canoes."*

INGREDIENTS

2–4 large zucchinis
½ pound ground lean meat (we like turkey)
1 cup cooked wild rice
1 cup chopped onions
*1 beaten egg (or enough substitute egg to make 1 real egg)

4 large tomatoes, puréed
*2 tablespoons olive oil
*Italian breadcrumbs (optional; cornmeal does not work well, but with the rice, you really do not need the bread)

OPTIONAL
*garlic
*dill
*parsley
*Parmesan cheese

Cut the squash lengthwise and take out the flesh (a melon-ball scooper works well for this). Place the emptied zucchini skins in a baking pan (I use a glass pan). Sauté the ground meat, squash, spices, and olive oil until meat is done. Remove from heat and add the cooked rice and beaten egg and beat well. Fill each emptied zucchini skin with the mixture, cover with foil (or glass top), and bake at 350 degrees for approximately 45 minutes—or until squash is firm and tender.

## Stuffed Bell Peppers

*This is another good recipe to that ensure your family gets their vitamin A and C and for when you have too many peppers in your garden. A week after the monsoons arrive in Flagstaff, I am almost drowning in squash and bell peppers.*

INGREDIENTS
4–6 bell peppers
½ pound ground meat
1 cup mushrooms
1 cup cooked wild rice
1 cup onion
1 cup garden salsa

OPTIONAL
*garlic
pepper to taste
chopped jalapeños
*cheddar cheese

Place peppers in a pan deep enough to cover the peppers. Fill the container with water until the peppers are covered. Put on the stove to bring the water to a boil, then simmer for about 20 minutes, or until the peppers are softened (but not soft enough to split). While the peppers are softening, sauté the meat, mushrooms, rice, onions, and salsa in a pan until meat is brown. Place peppers in a baking dish and add stuffing mixture to the empty peppers. Add some of the mix around the base of the peppers to make sure they stay soft. Bake at 350 degrees for 30 minutes. Depending on your caloric intake for the day, you can add some grated cheddar cheese over the top.

## Grits

*Grits are ground from hominy, which is made from the varieties of corn with hard kernels. The kernels are dried on the cob, then removed and soaked in a solution of wood ash (although baking soda and lime can be used) that causes the kernels to swell and soften. Then the kernels are hulled and dried; afterward the hominy is ground and the result is grits. This process causes the protein value to decrease, but lysine and tryptophan are increased. Without this process of using wood ash, however, pellagra (a deficiency of tryptophan and niacin) can occur because the food becomes deficient. Obviously, tribes learned that to use wood ash would increase the nutritional value of the corn.*

*Grits are popular in southern states; there are hundreds of recipes featuring grits and just as many southern towns that host grits festivals. It is interesting to me that many people I know have never heard of grits.*

*The best way to eat grits is not to buy the store-bought packages (like the*

*oatmeal packs). You need to buy freshly milled grits, usually obtained from a health food store.*

INGREDIENTS (FOR BREAKFAST USE)

1 cup stone-ground or other good quality grits
3½ cups boiling water

OPTIONAL

salt and pepper to taste
stevia, for sweetness
raisins or dried cranberries, amount depends on how much you like them
½ banana

Add grits, water, and seasonings to pot. Stir well, cover tightly, and cook over low heat from 45 minutes to 90 minutes, or more, depending on the coarseness of the grits. You will need to check them often to make sure they do not scorch. Add more water if they become dry. When the grits are soft, add the fruit and serve.

GRITS SIDE DISHES

The options for preparing grits are endless; you can add all kinds of sautéed chopped vegetables and meats to the cooked grits.

GRITS AND APPETIZERS

While other families were eating cookies and sweet rolls on Christmas mornings, my Aunt Billie Mills made cheese jalapeño grits. She used pickled peppers, so I do not recall them being too hot for me. Put cooked grits into a bowl and add chopped jalapeños (you could substitute green chilies, or raisins, or whatever you are in the mood for) and ½ cup of low-fat cheese to hold the mix together. Stir, then put grits into a square cookie pan and refrigerate until set. Slice and serve as you would brownies.

## Spaghetti Squash

*This is a perfect dish for anyone who cannot digest gluten or wheat, or for anyone counting calories. Although this does not taste exactly like pasta, the texture and appearance are close. Add spices and you will have a meal more nutritious than a plate of real spaghetti.*

INGREDIENTS

1 spaghetti squash (about 3 pounds)
*3 tablespoons olive oil
marinara sauce (tomato based; not cream based, like Alfredo sauce)

Slice squash in half, remove seeds, and bake at 350 degrees for 45 minutes to 1 hour or until tender. Using fork in scraping motion, remove squash from shell (it will come out in spaghetti-like strands). Top with sauce.

## Comanche *Ata-Kwasa*

**By Wallace Coffee (Comanche)**

INGREDIENTS

2 bushels of corn, Indian corn with the red and blue kernels, or you can get sweet corn and it will work just as well

Prepare one small fire, about 3 feet in diameter, with a lot of wood. Make sure you are not in a place where a forest fire could get started. A charcoal burner will work but will not make the quantity desired.

Shuck the corn until just a few layers of husk remain. When the coals have dropped, place the corn on the coals and let them roast. Allow the corn to roast but make sure they do not burn. Periodically turn them over so they are thoroughly cooked. This is the hardest part of the task because the fire is hot and it does not take long for the coals to roast them. If it takes a long time, it is because the fire was not hot enough.

After the corn is all roasted, take off the husks and let them dry and cool down. It is amazing to see the kernels on the cob swell up because of the roasting process. When they are cooled down, pop off the kernels or take a sharp knife and cut the kernels off close to the cob. Place them on an oilskin tablecloth or canvas to let them dry. Even out the corn on the tablecloth to let them absorb the sun. Let them dry in the hot sun for several days until they have dehydrated and are shriveled.

When they are completely dry and hardened, place them in canning jars or some type of container that will not allow moisture to get in.

During the wintertime, boil a couple of cups of the corn with some beef. The kernels will expand to their normal size and you will taste the sweetness of the corn and, coupled with the beef, uuuummmmm!!

## Tepary Bean–Prickly Pear Cassoulet

**By Gary Nabhan**

*Tepary beans and prickly pear pads (called* nopalitos *in Mexican grocery sections) are among the best "slow release" foods that can reduce blood sugar and increase insulin levels in diabetic Native Americans. Both foods were regularly used by Native American communities in the Desert Southwest and adjacent Mexico, including the Tonoho O'odham, Yoemem, Nde, and Cucupa peoples. These desert-adapted plants are rich in soluble fibers that slow water loss from their tissues during drought; these same mucilages (secretions) slow down blood-sugar changes in our bodies. This recipe also includes two Native American spices that are among the best antioxidants in the world, thereby providing additional protection against diabetes; if sumac berries and wild oregano are unavailable, substitute cinnamon in their stead.*

INGREDIENTS

2 pounds white tepary beans, cleaned, soaked, and boiled until tender

- 1 pound tender prickly pear pads (*nopalitos tiernitos*), already in strips or diced, with spines removed
- 4 wild green onions (scallions, shallots or chives), with shoots, minced
- *4 cloves garlic, minced
- *4 teaspoons ground sumac berries (called *simmac* in Middle Eastern groceries)
- *4 teaspoons crushed dried "Mexican" wild oregano leaves
- *6 teaspoons extra virgin olive oil
- 2 teaspoons salt

Boil or cook the tepary beans in a slow cooker until very tender—often an hour longer than what pinto or navy beans require. Remove from heat and drain. In a skillet or wok, heat 1 teaspoon of olive oil and toss in the diced prickly pear; sauté for 3–5 minutes, then add onions, garlic, and oregano. Keep on low heat for another 3 minutes. Pour beans into an oven-proof (or microwaveable) casserole dish a quarter larger in volume than the bean volume, and then stir into them the prickly pear, onions, garlic, and spices. Preheat oven to 300 degrees (or prepare microwave for a 5-minute low-heat program). Pour the remaining olive oil onto the beans, and sprinkle ground sumac berries over the top. Cover with a lid and bake for 30 minutes, or microwave for 5 minutes. Serve hot.

# BREADS

## Choctaw *Banaha*

*Corn and most of the dishes we can create with corn are at the top of my list of food favorites. What I like the best about tamales is the corn, not the filling.* Banaha *is similar to a tamale, but with no filling.*

INGREDIENTS (FOR PURISTS)

2 cups cornmeal
1½ cup boiling water
1 teaspoon baking soda
1 teaspoon salt
corn shucks

Boil corn shucks for 10 minutes. In a large bowl, mix together the cornmeal, soda, and salt until it is doughy. Roll into long shape that will fit into the corn shucks. Wrap the shucks around the dough and tie with a shuck string; then boil in pot of water for 30–40 minutes. We eat it with salsa on top.

To make *banaha* more interesting, I add a variety of things to the cornmeal mixture: chopped onions, spinach, garlic, pepper. I prefer to boil the *banaha* in unsalted chicken broth, instead of water, for added flavor.

## Corn Bread

*Corn bread is our family favorite and it goes with almost everything. When baked with meat it is a meal by itself. It can also be eaten with yogurt as a dessert.*

INGREDIENTS

1½ cups cornmeal
*2 chicken eggs (or duck eggs for thicker consistency)
*1 cup skim milk (or goat milk for thicker consistency)
1 cup cooked sweet corn (drained)
¾ teaspoon salt substitute
4 teaspoons baking power

OPTIONAL

For variety, add chopped green chilies, ham, apples, cheese, or bacon (not the fat part)

Mix ingredients in large bowl. Pour into 12 × 8 pan, greased with nonstick vegetable spray. Bake 25 minutes at 400 degrees or until knife comes out clean.

## Corn, Bean, and Turkey Bread

INGREDIENTS

4 cups corn meal
1 pound lean ground turkey
2 cups hot water
2 cups cooked and drained pinto beans
½ teaspoon baking soda
½ cup chopped sweet onions
*salt, pepper, garlic to taste

Sauté the turkey along with spices. Mix the turkey with the other ingredients, form into desired shape (balls work best), and drop into boiling water. Cook approximately 30–40 minutes. Using a spaghetti pot with a colander that fits into the pot makes it easy to drain—just lift the colander out after cooking and hold over the sink to drain.

## Osage Persimmon Cakes
## (*Wah-zha-zhe wa-dsiu-e çta-i$^{ń}$-ge*)

**By Andrea Hunter (Osage)**

INGREDIENTS
persimmons
buffalo grease

Go to the woods and collect as many persimmons as you can. Build a fire. Using a small woven screen made from saplings, separate the seeds from the pulp. Do this by grating the persimmons against the screen, causing the seeds to fall through the screen and leaving the pulp behind. Mold the persimmon pulp into small cakes. Take a wooden drying board, about 9 inches wide and 18 inches long, with a handle, and apply buffalo grease. Layer 3 or 4 persimmon cakes on the drying board and hold over an open fire until the first persimmon cake layer is about cooked. Then remove the cakes and cool. When the cakes are completely cooled, they can be stored. These cakes will last until the next season.

# DRINKS

## *Abuske*

**By Susan A. Miller (Seminole)**
*This is a Seminole and Muscogee corn-based drink.*

Boil young corn on the cob for a few minutes. Cut the kernels from the cob and spread them evenly on an old window screen (do not use screens made of copper or aluminum, or galvanized with cadmium or zinc), leaving space between kernels. Cover with several layers of cheesecloth and place in an abandoned car to dry. When the corn has dried, heat clean wood ash in a cast iron skillet until it is nearly hot enough to smoke, add the corn to the ash, and stir constantly until the kernels turn brown. Sift away the ash, but do not wash the corn. The ash adds calcium and trace minerals, helps free the corn's niacin for absorption by the body, and is believed to have a positive effect on the balance of the corn's amino acids. Grind the corn to a fine flour. (A courser meal may be cooked and eaten as a side dish.) Stir the corn flour into cold water. Flavor with honey, if desired. This refreshing drink has a comforting taste and provides a pleasant burst of energy.

## Fruit Smoothie

*This is a great drink on mornings when you are not really hungry but need something, or when you are not feeling well. I make one at least 4 days a week.*

INGREDIENTS

*½ cup sliced peaches
½ cup blueberries
1 cup strawberries
½ banana
*½ cup orange juice
*½ cup carrot juice
*1 scoop protein powder (optional)
*½ cup low-fat vanilla yogurt that has sat in the freezer and is frosty, but not frozen

Combine all ingredients in blender and blend until smooth. I use frozen fruit, then allow the fruit to thaw slightly so my blender blades will not get stuck on the hard fruit. Using slightly frozen ingredients makes a colder, creamier smoothie. I use a whey-based protein powder.

# DESSERTS

## Fruit Salad

*This is a perfect dessert for any time of the year. It is sweet, filling, and full of vitamins and minerals. You can prepare a larger amount of fruit on Sunday and have it for the next three days.*

INGREDIENTS

*1 apple, chopped
*1 orange, peeled, seeded, and sectioned; a can of drained Mandarin oranges works well when you are in a hurry
*1 cup of sweet, unseeded grapes
*1 ripe (but not squishy) mango, peeled, deseeded, and cubed
*1 banana, sliced into thin sections (like quarters)
*1 cup low-fat vanilla yogurt
*3 tablespoons raisins
1 tablespoon peanut butter (to dollop on top)

Combine all the fruit on top of the yogurt in a bowl large enough to accommodate all the ingredients. Add or delete fruits to taste.

## Mamaw Helton's Stewed Fruit

**By Pamela Jean Owens**
*This is a wintertime dessert using dried fruits, but it can also be made with the fresh fruit of summer or a mix of dried and fresh.*

Take absolutely any kind of fruit. Reconstitute the dried fruit with water; or, if using fresh fruit, wash it, peel it, and cut it up, as needed. A combination of dried fruit and fresh berries is wonderful.

Put all the fruit in a saucepan with water (not too much) and bring to a boil. Use the same water you reconstituted the dried fruit in and add some more, as needed.

Simmer until tender but do not let it get mushy. Stir often and do not let it stick.

If you use berries, add them right at the end so they do not cook too long. If you use fresh pears, they should not go in right at the start either, unless they are the very firm kind. If you are using dried fruits, then they all cook together.

Good fruits are apples, plums, pears, peaches, and their relatives, and apricots. All kinds of berries are great, but mixing different kinds of berries is not a good idea. Generally only one red or purple fruit is best—so plums or berries, but not both, and not multiple kinds of berries, but you can experiment. There is no wrong combination, if you like it. Of course, fresh fruit would have depended on where you lived, before modern times, but dried fruit might have been obtained by trade, even if it did not grow locally. Depending on how sweet or tart the fruits are, you can sweeten or not. But Mamaw always thought a little real butter made everything better, and Aunt Jean thinks the same about white sugar. My mother always adds cinnamon. My seasoning of choice is brown sugar, but only the fruit itself is essential.

Serve in small bowls as dessert. You can pour some cream over the top if you wish.

## The Grandfathers' Favorite Dessert

**By Pamela Jean Owens**

*The old men liked to take the pot liquor (the water) that the green vegetables were cooked in, pour it in some buttermilk in a big glass, and crumble the rest of the corn bread in it. They claimed it was delicious and ate it for dessert. They did this with the pot liquor from all kinds of greens like turnips and collards, and from cabbage too, but any green vegetable water would do, even okra.*

# Preserving Foods

**Joyce Ann Kievit (Eastern Cherokee)**

*When I was young, I spent summers with my Cherokee grandparents in a really remote area of the Great Smokey Mountains, not far from Qualla Boundary, North Carolina. They raised their own vegetables and preserved their meat without benefit of electricity. The major reason I stayed with my grandparents was to help them lay in food for the winter and to go for help if either one of them needed medical care.*

### GREEN BEANS

One of the foods I used to help with was green beans. My grandma called them Leather Breeches Beans. We would pick buckets of green beans and wash them. Then the beans would be strung together using a stout needle filled with a long, strong thread. After stringing, the beans would be hung in warm air out of the sun until they were dry. Once dry, the beans would be stored in cloth sacks until ready to use. (The cloth sacks were made from scraps of cloth from old clothing or from recycled flour bags). To rehydrate the beans, she simply poured boiling water over the beans and simmered the beans on low heat until plump and tender, about 45 minutes.

### PEAS

I enjoyed helping with the preservation of peas the most. First, the peas were put in the sun to dry and when thoroughly dry put away until there was a windy day. On the first good windy day, the peas would be put outside on a bed sheet and the peas would be beaten with a stick—the wind would blow the chaff away and leave just the peas behind. The peas would then be stored in a sack until needed and rehydrated by pouring boiling water over them and simmering until tender.

### PUMPKINS

In the fall of the year, they would dry pumpkins. My grandmother would take the seeds out of the pumpkin and then slice the flesh into really thin rings, slicing or scraping off the peel as she went along. Then the circles would be hung on a stick to dry. Once dry it was stored in sacks. She used dried pumpkin in soup and pudding recipes in the winter.

### PEACHES AND APPLES

Peaches and apples were dried in a similar manner. The fruit was sliced thin and put on the tin roof of the house to dry. Sometimes, depending on the weather, fruit rings would be strung on a stick and placed in front of the fireplace. Once dry, they would be stored in sacks for use during the winter.

### ANIMALS

My grandparents raised chickens for food and eggs. They also ate wild animals they killed. They prepared possum by bleeding the animal immediately after it was caught and then scalding it in boiling water containing a handful of ashes. Then the animal was gutted and the head and musk glands were removed. The remains were then soaked overnight. The following day, the possum would be boiled in salty water or baked in a pan lined with sassafras sticks until tender.

A favorite of my grandmother was raccoon. Like the possum, the coon would be bled as soon as it was killed to prevent spoilage. The head, tail, and feet were cut off and the musk glands removed. They skinned the coon and soaked it in salty water overnight. The following day, my grandmother would either boil it in water with broken spice-wood twigs or the coon would be salted and smoked for later use.

In the winter, my grandparents ate meat they cured themselves. They had a small smokehouse made out of logs chinked with mud. It kept out most insects, kept the meat cool in the summer, and kept it from freezing in the winter. They would begin the curing process by covering each piece of meat with salt until it was totally white. Then the meat would be put on a shelf in the smokehouse to "take the salt." When they needed meat in the winter they would simply cut off the amount they wanted and wash the salt off and soak it overnight in water. The following day the meat could be boiled or baked.

They also smoked deer and bear. Holes were poked in the meat and it was hung from the joists of the smokehouse. Then a fire was built on the dirt floor, using hickory or oak chips or sometimes dried corncobs. The fire was kept burning for several days until the meat developed a thick brown crust. The food could then be stored in the smokehouse until needed.

# One-Week Diet Chart

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[a]Net intake of calories this day

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[a]Net intake of calories this day

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| | | | | | | | |
| Totals: | | | | | | | |

**Calories Expended**

| Activity: | Calories Expended: |
|---|---|
| | |
| Total: | |
| Calories Ingested—Calories Expended[a] | |

[a]Net intake of calories this day

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## Indigenous Recipes

1. Story of the Helton Women: My Great-Grandmother Irby (born Fanny Mary Clay) was born in Indian Territory before it was Oklahoma, sometime after 1870. She was Cherokee but she married a drunken Englishman and moved

to Texas. (She is listed as "lost" on the Dawes Roll, and to her family that is what she was, until grandchildren came along, at least.) My grandmother, Bessie Neva Irby Helton (1904–2000), grew up around Fort Worth, Texas, married a Texas-raised Tennessee hillbilly (her words, not mine) who was the love of her life, and moved to Dallas when she was not quite seventeen. At age nineteen, Mamaw had twin daughters, Eva Rae and Neva Mae, and, two years later, a third daughter, Irma Jean. Aunt Jean's birth certificate reads "baby girl," because they only had picked a name for a boy. They did not know twins were coming the first time, so Papaw's brother named Momma and Eva. Mamaw was the youngest girl in her family of eleven, but she still learned to be a fantastic cook. She taught all the rest of us, including me. I recall eating these foods at her table as far back as my memories carry me.

Mamaw raised me, in large part, and made me who I am. I married a mixed-blood Choctaw from Texas and we have three children, one daughter and two sons. Their grandmother (my mother) and their Aunt Jean have taught them all to cook. Mamaw taught us life by a set of mottos that probably can be summed up best with this one: "Can't never could do nothing." But others she used a lot included talk about "making do," that "we are survivors," and then the line from the legend of Davy Crockett: "Be sure you're right and then go ahead." She considered Davy a real Cherokee hero, as he fought for the Cherokee in Congress and then fought for Texas too. Finally, "no use crying over spilled milk" kept us moving along when things went wrong, whether it be a stubbed toe, a burnt pot, or a breakup with a boyfriend. Mamaw loved to sing and knew the Cherokee songs of her mother, but she did not know what the words meant. She explained, "Momma only talked Indian when her Momma was visiting, but she sang all the time." These are Mamaw's recipes, as I remember her narrating them to us while she cooked.

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