

The Design of Food

by

Jennifer L. Janzen

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

“The gastronomic must no longer serve as mere metaphor for the arts, but must take its place among the muses.”¹

- Allen S. Weiss

Isidore of Seville, in his seventh century work *Isidori Hispalensis Episcopi Etymologiarum sive Originum*, reminds us of the relationship between cuisine and reason: his etymology of the word *sapiens* (wise, rational) proposes *sapor* (taste) as its source, and he explains that “just as the sense of taste is able to discern the flavours of different foods, so too is the wise man able to discern objects and their causes since he recognizes each one as distinct and is able to judge them with an instinct for truth.”² Taste, defined as such, appreciates all that exists, and lies behind creativity and change.

In the kitchen, we have complete authority to be the designer, the craftsman and the client, all at once: we need neither degree, nor license, nor money to exercise and hone our taste – as opposed to the architectural industry. As designers, we take stock of the tools and ingredients available, and find creative ways to accommodate both personal preference and nutrition. Interactions with suppliers aid our search for sustainable resources,

and the insights they offer help us compose recipes and meals sympathetic to my environment. As a craftsman, we draw on self-taught skills and expert advice to create dishes. More importantly, we can dwell on each ingredient, and contemplate the potential contained within, for in the words of Richard Sennet, in his book *The Craftsman*, all of our “efforts to do good quality work depend on curiosity about the material at hand.”³ As the client, we eat what we make, and evaluate whether the recipe fulfilled the basic criteria set out at the beginning of the process.

The dishes that come out of our kitchens and imaginations are expressions of our past experiences and present environment. Our recipes and craft reveal our influencers, interests, and expertise. This “recipe book” is one story of a search for practical experience, and the subsequent refinement of personal taste.

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Finally, I'd like to thank Rainer for his discernment and direction, and for giving me the space and time to finish what I started.

Dedication

This thesis is dedicated to my family who have support me in all my academic pursuits, and to my grandmothers who first inspired me to learn more about food, where it comes from, and about the beauty that surrounds us in Canada.

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Introduction

“Pleasure begins in the tactile origin of taste and culminates in the interwoven ramifications of the architectural and culinary realms of knowledge.”⁴

- Marco Frescari

Cooking, Architecture, and Taste

Taste, at its base, is intuitive: to survive, we must sense what is good to eat; to experience pleasure, we must discriminate. The former, primary stage of assessment is what Brillat-Savarin – the 18th century philosopher who founded the field of gastronomy – refers to as the “first perception,”⁵ our instinctual evaluation in terms of edibility. The next level, the “first impression”, occurs only after the object is “well-chewed” and we recognize the depth and range of “flavours” the object possesses.⁶ Comprehension arouses a third level, “personal judgment,” in which we weigh our perceptions on scales of pleasure and pain, and in terms of our physical, emotional, psychological and spiritual realms of consciousness.⁷ Taste, therefore, cannot be taught, but must arise out of intuition, be formed by experience, and refined over time through practice, trial and error.

Our practice and refinement of taste in one creative field can also enhance our abilities in another field. By taking notice of similarities, distinctions, and opportunities to transfer skills and strategies between creative outlets, we develop our awareness and acuity, and ignite inspiration.

One example of two seemingly disparate but complimentary design fields are cooking and architecture. Though one deals with food and the other buildings, success in both fields depends on the designer’s sense of taste primarily exercised in three key areas – response to target audience,

selection of resources, and composition.

Let us examine the first link between the cooking and architecture, audience. The nature of design is to consider the past, and plan for the future. Both chefs and architects must, therefore, appreciate people’s basic necessities, backgrounds, and behaviours. They must understand what is needed versus desired, what is familiar and foreign, as well as what could induce pleasure and pain. The weight of and relationship between these influencers is unique for each individual: one travelling, for example, may continue to seek out new experiences despite finding many less pleasurable than anticipated; a recent immigrant, however, may find solace in familiar dishes from his or her country of origin as they bring to mind positive past experiences and a sense of ‘home’.⁸ The key is for the designer to be aware the cultural and social background of their audience to best gauge how to balance tradition with innovation, and reliability with intrigue. Both chef and architect look to create a gut reaction – relieving ‘hunger’, satisfying ‘cravings’, and evoking a “very sensual, very visceral” experience of **place and time**.⁹

Place and time are also fundamental considerations when selecting resources – the second link between food and architecture. Whether human or material, refined or raw, resources give form and tactility to designs, elevating from imaginings and setting them in present reality.

Though the variables affecting decisions on colour, texture, content, and even craftsmanship, may be infinite, most can be categorized under a few basic headings: quality, cost, and location. Some materials, and even some labour, may be of lesser quality without consequence to successful design execution, thus allowing lowest cost and closest proximity to govern selection. Other resources, however, are the driving forces behind

design decisions and require more careful examination of what is desired versus available. Though we strive for the highest quality materials and the most skilled craftsmen working for us, they may not be available for reasons of cost or availability.

Tempered by adherence to budgetary restraints, we, as designers, must then select key materials by considering them in the context of their physical or cultural, macro or micro landscapes.¹⁰ As discussed in Sobal and Wansink's essay, *Kitchenscapes, Tablesapes, Platescapes, and Foodsapes*, our natural and built environments shape what is available to us, "the barriers and facilitators to access," and thus ultimately the decisions we make.¹¹ At a macroscale, we look to the country and the globe for trends as well as new products and technologies coming onto the market. We learn about cultures outside of our own to understand their points of view, and search for new techniques and materials sympathetic to our design intent. At the community level, we examine what natural resources are available within driving distance, our connections to producers, and our motivations to support the local economy. When we buy locally we not only save on transportation costs, but also have the opportunity to interact first-hand with expert craftsmen. At a microscale, we look at the skills and tools we have to work with – the pots, pans and experience in the kitchen, for example. Along with the leftover "ingredients" or "concepts" unused in previous projects, we bring our expertise to the table.

Expertise and sense of taste inform the third link between cooking and architecture – aesthetic composition. Both chef and architect have the opportunity to manipulate colour, texture, light, form and proportion to maximize visual effect – in some cases (such as a meal made for oneself) an added bonus, in other cases (a building designed to impress visitors), a fundamental goal. As designers, we have artistic license and the natural inclination to design beautiful things. Beauty, however, is subjective, and we need to consider our audience, as well as the setting in which our designs

will be experienced. Execution is also crucial to the success of a composition as obstacles undoubtedly arise when transferring ideas into reality. The designer must therefore communicate their vision in detail in order for others to bring that vision to life.

Recipes

A recipe is similar to a set of blueprints. It can be the starting point, the means, or the result of exercising our sense of taste: it is template, tool, or artifact, and as such, conveys how a cook's resourcefulness, intuition, and discrimination factor into food design.

As a template, a recipe may be the basis and inspiration for invention. As we read in Jim Jarmusch's well-known poem, "Nothing is original. Steal from anywhere that resonates with inspiration or fuels your imagination."¹² Inspiration may be formed by a recipe that passes down basic findings and formulas from one cook to another, and by providing a framework on which to exercise personal taste. For example, in baking, where ingredients must be measured precisely to undergo chemical reactions, a recipe for bread may serve as the base for an infinite number of flavourings: spices, herbs, fruit, vegetables, cheese, nuts or even chocolate. Alternatively, the bread recipe may be used to create foods other than bread – pizza crust, piecrust, buns, bowls, dumplings, stuffing, and casings to be stuffed – and becomes a compound ingredient within a more complex recipe.

Variations and adaptations of a recipe template may make better use of local ingredients, accommodate restrictions to time, diet, or preparation method, or simply strike the fancy of the chef. Ingredients may be substituted to replace what is not available, to appeal to personal preferences, improve nutrition, or take advantage of fresh foods in season. They may also be prepared in a different manner than specified in the recipe (using a food processor, for example, rather than slicing by hand) if cer-

tain utensils, pots or pans are not present or more efficient equipment is available. The key is to recognize that recipes are not absolute, but can be shaped by the discretion of the cook.

As a tool, a recipe may be a means for self-improvement. Tested, refined, and retested until deemed perfect, it may be used as an example for others to follow. Even if taste cannot be taught, a cook's **method can be studied and practiced**, with its results verified first hand. By learning the details of how a dish is prepared, we gain the knowledge that enables us to make assessments in the future. How, for example, would a cook know to bring out the sweetness of fruit with the acidity of lemon except by reading it in a recipe and testing it? Recipes are often our only means cooking instruction.

Alice Waters, one of the most influential cooks of this century, cooked her way through Elizabeth David's *French Provincial Cooking* not only as a means of sharpening her skills, but to gain a new understanding of cooking – “a tactile, sense-engaging way of making food.¹³” **Though sometimes hidden between the lines** of a recipe, the philosophies behind food are as important to understand as the techniques. Beyond satisfying hunger and improving taste, we must be aware of the array of other reasons for making decisions about ingredients and methods of preparation. The criteria by which others measure value and success - “organic,” “economic,” “exotic,” or “local” - equips us with points of reference we use to gauge our own successes.

As an artifact, a recipe is the most enduring evidence of a perishable design. We appreciate such a recipe as the product of a cook, his or her environment and culture. Seen as a keepsake, we may treasure a recipe for sentimental reasons. A grandmother's lemon meringue pie or friend's potatoe salad recipes may seem common, but they may be memories. Such recipes are above the mere evaluation of flavour, texture, etc.; they stand alone as signature pieces that rekindle the presence of their designer.

Examined in reference to its origins in place and time, a recipe may also document the climate, natural resources, agricultural industry and technology of the region. As local produce varies not only by season, but also by soil type, rainfall, air temperature, and sunlight, fresh ingredients suggest the regional conditions that lead the cook to include them in the recipe. Similarly, modes of preparation evolved differently in remote parts of the world, and cooking techniques may be another trademark of a region. The first sushi dates back to coastal Southeast Asia in the 4th century B.C., where fish was a main source of food, when it was gutted and surrounded by rice to be preserved by its fermentation process. A recipe for Maple Syrup Pie (*Tarte au Sirop d'Erable*) is a customary dessert that has been made for centuries in Quebec, where maple trees are plentiful, temperatures rise and fall dramatically to draw the sap up from the roots, and where the rest of the ingredients (flour, butter, and egg) could be found on even a remote family farm. A recipe for borscht uses water, potatoes, eggs, dill and leftover pieces of ham, ingredients easily grown and affordable in Russia before WWII, and can be made in a single pot over a fire also used to heat the home. Such recipes bear the signature of their region and can be appreciated as the artifacts of places and times passed.

Understood in terms of its cultural influences, a recipe may also stand as a social commentary. Author Margaret Visser, in *Much Depends on Dinner*, dissects not just one recipe, but instead an entire 20th Century American meal. She explains the physical and cultural evolution of each food involved – corn on the cob with butter and salt, roast chicken with rice, salad dressed in lemon juice and olive oil, and ice cream. By contrasting North American traditions with traditions in other countries, Visser brings to light unique customs and stylistic preferences.

Michael Pollan performs a similar analysis in his book *The Omnivore's Dilemma*, and discusses current issues affecting our decisions about food: What are the advantages and disadvantages of processed or geneti-

cally modified foods? What really lies behind the “organic” label? What is the environmental impact of buying food from a grocery store versus a farm? He characterizes a culture of convenience and overwhelming abundance starting to come to grips with the unsustainability of its lifestyle, and searching for a simple solution to what should be a simple question – What is for dinner?

Eric Schlosser concentrates more specifically on the commercial food industry in *Fast Food Nation*, examining North America’s growing reliance on fat, salt, and sugar-laden foods. He describes the North American culture’s appetite for fast food, as well as industry’s motive to drive this. Schlosser takes a look at the subsequent health problems, the dangerous conditions inside food processing plants, and appallingly crowded chicken farms and raises the question: has our culture progressed through efficiency, or regressed into barbarism? Though the global food industry provides cheap ingredients from anywhere in the world at any time of the year, it also disconnects people and places – a state that fuels ignorance of one’s surroundings.

These authors have broken down foods into their ingredients, methods and cultural influences to understand how and why they came together. The recipes in this book, however, take a more constructive approach. Inspired by foods tasted and cooked, and made possible by knowledge gleaned, these recipes appreciate the factors affecting our sense of taste as integral parts of an assemblage, each to be weighed and coordinated in the design process. Composed as a collage of open-ended discussions on a theme of factors, these recipes are not intended to imply direct metaphors, but rather to raise awareness of issues in cooking that may be helpful or interesting considerations in architecture. As a body, this collection of recipes stands as but one example of how a designer’s geography, history, personality, and cultural background influence his or her means of discrimination and method of execution.

Each recipe examines a different basis of discrimination. Discrimination, Brillat-Savarin’s third level of “taste”, arises from comprehension: we sense, we study, we understand, and then evaluate. This helps us avoid pain and increase pleasure, not by desiring what we cannot have, but by finding beauty in even the most trivial details of our lives. The foods designed and discussed, therefore explore different definitions of beauty.

Beauty

More than merely food that produces pleasure in the diner, recipes are the tools by which the cook may recognize and reproduce pleasure. A recipe’s beauty lies in its ability to invite participation and appreciation while passing down knowledge: “Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.”¹⁴ Through recipes, the diner may become the chef.

We find beauty in its most tangible form in aesthetics – the vibrancy of colours, the intrigue of textures, and the elegance of forms, for example. We may discover beauty in uniqueness or familiarity, in composition or material. The play of light and darkness heightens our awareness of such qualities, and locates them in time and place. Though some ideals have transcended generations, we primarily discern based upon our own experiences, and thus each have a bias towards beauty. When we do find “beauty in the eye of the beholder,”¹⁵ we may recognize it as the result of design intent. This acknowledgement prompts wonder, then investigation, and arrives at a clearer comprehension of what makes that thing beautiful.

We may also find beauty in actions – what is admirable, what is healthy, what displays skill, or grace. We may regard those acts as beautiful, even though the primary pleasure they induce is directed elsewhere. We take notice of refined character, whether the respectability of a business

owner or the graciousness of a host, and subsequently seek to refine ourselves through a similar practising of self-control, discerning what is moral as well as what may bestow pleasure onto others.

Beauty is most difficult for us to grasp in the form of a promise. We may desire such resolution our entire lives, but not recognize it in the details of daily life. Instead, we go on in hopes of something greater than our banal existence until awakened to what has been with us throughout. Only if, and when, we reach that point, are we able to appreciate all that was, is, and will be beautiful in the world – and be able to design to the best of our abilities.

Whether simple or complex, recipes reveal forms of beauty previously unrecognized, and make pleasurable even the most elementary of experiences – the meal.

*13 Now that same day two of them were going to a village called Emmaus, about seven miles[a] from Jerusalem. 14 They were talking with each other about everything that had happened. 15 As they talked and discussed these things with each other, Jesus himself came up and walked along with them; 16 but they were kept from recognizing him. 17 He asked them, "What are you discussing together as you walk along?" They stood still, their faces downcast. 18 One of them, named Cleopas, asked him, "Are you the only one visiting Jerusalem who does not know the things that have happened there in these days?" 19 "What things?" he asked. "About Jesus of Nazareth," they replied. . . .
. . . 28 As they approached the village to which they were going, Jesus continued on as if he were going farther. 29 But they urged him strongly, "Stay with us, for it is nearly evening; the day is almost over." So he went in to stay with them. 30 When he was at the table with them, he took bread, gave thanks, broke it and*

began to give it to them. 31 Then their eyes were opened and they recognized him, and he disappeared from their sight. 32 They asked each other, "Were not our hearts burning within us while he talked with us on the road and opened the Scriptures to us?" 33 They got up and returned at once to Jerusalem. There they found the Eleven and those with them, assembled together 34 and saying, "It is true! The Lord has risen and has appeared to Simon." 35 Then the two told what had happened on the way, and how Jesus was recognized by them when he broke the bread.

Bread

2 tsp. dry yeast
1 cup warm water
2½ cups whole wheat flour
1 tsp. salt

1. Dissolve the yeast in the warm water.
2. Mix the flour and salt together and slowly add it to the yeast. Work the mixture into a dough, and knead for several minutes.
3. Cover the dough with a damp cloth and let it rise in a warm place for 1–1 ½ hours.
4. Preheat oven to 350°F.
5. Divide the dough into 8 equal portions and roll into balls. Press into flat, round shapes.
6. Place on a greased baking sheet and bake for about 20 minutes, or until barely golden.

Freshness



Thin-Crust Pizzas

As seasons change, new waves of fresh produce reach maturity. Harvested and eaten in their prime, fruits and vegetables found locally are more flavourful, less expensive, and help re-establish connections to both land and community. By combining foods based on seasonal availability, flavour, texture, and even appearance, the chef may create new dishes celebrate the unique traits of each ingredient. Such foods not only mark the passing of time, the transition from season to season, but also foster an appreciation of the region's climate, character, and agricultural industry.



I.1 Forno La Renella

“To the attentive eye, each moment of the year has its own beauty, and in the same field, it beholds, every hour, a picture which was never seen before, and which shall never be seen again.”¹⁶

- Ralph Waldo Emerson

Forno la Renella, in Trastevere, part of Rome, is always a hub of activity around lunchtime – an anomaly on the winding, sleepy Via del Moro. Though they bake cookies and breads, they are famous for their pizza. Most days they have half a dozen different pizzas ready-to-eat, and served their *Pizza Bianca* (simply dressed in olive oil and salt) as a base for sandwiches.

That afternoon, in late September, the daily pizza was a seasonal specialty – *Fiori di zuca* (summer squash flowers) with ailici (anchovies). Though intrigued by squash flowers, I could not bring myself to eat anchovies. I ordered the potatoe pizza instead.

A few weeks later I returned to the *forno*, determined to try the pizza despite the anchovies. Disappointed at seeing it replaced, I asked why they were not serving the *Fiori di zuca* pizza. A shrug and a quick response in broken English – “No more. Next year.” – informed me of the passing of the season. What flowers remained were now on their way to becoming squash.

I left the *forno* empty-handed. Later that afternoon, as I sat eating a sandwich by a fountain nearby, I contemplated the differences between food in Italy and Canada. I couldn’t remember the last time a restaurant didn’t serve a dish because it was out of season. Ingredients would have been imported and served regardless of their freshness.

The next day I walked back to Forno la Renella with a new appreciation for what they make. I’d missed one opportunity, but knew there would be new pizzas, with new toppings – like the pear pizza that had become the new seasonal special.

Fig. I.1. Opposte, Forno La Renella, Trastevere, Rome.



1.2 From Bud to Taste Bud

The best fruit is eaten ripe, at peak flavour. For those raised in farm country, eating unripe fruit may be disrespectful, when impatience prevents produce from fulfilling its potential: fruit ideally matures on the tree, and is eaten either directly from the branch, or within a day or two of picking; fruit picked green and stored in a refrigerator is prevented from ripening further, and while equally filling, is less satisfying. An important reason to eat local, seasonal foods is to expedite the movement from farm to stomach, and from bud to taste bud - taking advantage of food at its maximum flavour and nutritional benefit.

Fruit ripens when the plant triggers enzyme production by releasing gaseous ethylene hormones through root tips, flowers, and other fruit. Enzymes perform a number of functions to mature the fruit, including reducing a fruit's tartness by neutralizing acids, allowing the colour of the skin and flesh to develop by breaking down chlorophyll, softening and sweetening the fruit by converting starches (the source of a fruit's mealy, floury texture) into sugars, and increasing aroma by separating large molecules into smaller, volatile molecules.^{17 18} The plant uses the aroma and sweetness of the fruit to attract birds and animals that, after eating the fruit, propagate by dispersing undigested seeds.¹⁹

Humans, however, are more likely attracted by appearance and feel than by the other senses. Though I use "the smell test" to help find ripe produce – most often when picking tomatoes – most consumers at the grocery stick to the basics: Does it have marks or bruises? Is it still green? Is it mushy or hard as a rock? Unlike those who can pick from their garden, or those well acquainted with market vendors, most people do not have the opportunity to sample fruits and vegetables before selecting them. It is uncommon to check for ripeness by sound, though my grandfather maintains the best way to check a watermelon is to listen to the sound of a fingernail piercing the skin at the end opposite the stem.



Fig. 1.3. Fresh beets at St. Lawrence Market, Toronto, 2010.

Fig. 1.2. *Opposite*, fresh zucchini at St. Lawrence Market, Toronto, 2010.



Most fruit at the grocery store, however, fails these tests of ripeness for several reasons. Tree-ripened fruit is a target for birds and insects; farmers risk a lower crop yield by allowing fruit to mature before picking. Soft fruit bruises easily in transport, so unripe fruit is shipped in climate-controlled trucks (or crates that prevent produce from ripening) and travels an average of 2400 kilometres to the grocery store.²⁰

Eating fruit in its prime provides opportunity to experience more full, multi-dimensional flavours than eating bland, under-ripe, imported produce. Although it is satisfying to support the local economy and culture, and from feeling connected to the land, the most tangible pleasure begins when food meets mouth.

Taste buds, or *lingual papillae*, are found inside the mouth, and are in highest concentration on the tongue. These chemoreceptors detect, through direct contact, information about the chemical composition of food. In western culture, there are five basic tastes: bitterness, saltiness, sourness, sweetness, and savouriness (commonly called by its Japanese name, umami). Eastern culture includes piquancy (spiciness causing heat) as a sixth basic flavour, and gastronomists and chefs go a step further, often adding astringency (leaving a dry film in the mouth) and pungency (sharpness, especially in odour, like that of an onion) to their list of key criteria for evaluating taste. Contrary to popular belief, the tongue is not divided into areas aimed at detecting different flavours; flavours can be sensed on any part of the tongue, either through the detection of ions in salty or sour foods, or the detection of G-proteins found in bitter, sweet, or savoury foods. More detailed information is gathered by the olfactory receptors, which indirectly detect chemicals in food through the volatile chemicals that travel up the throat, released upon chewing. This information then passes along cranial nerves to the gustatory cortex, a region in the front of the brain responsible for processing taste.

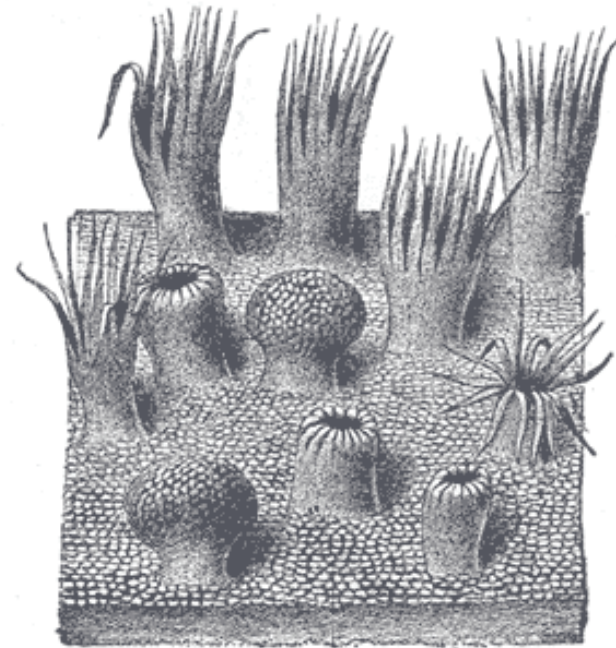
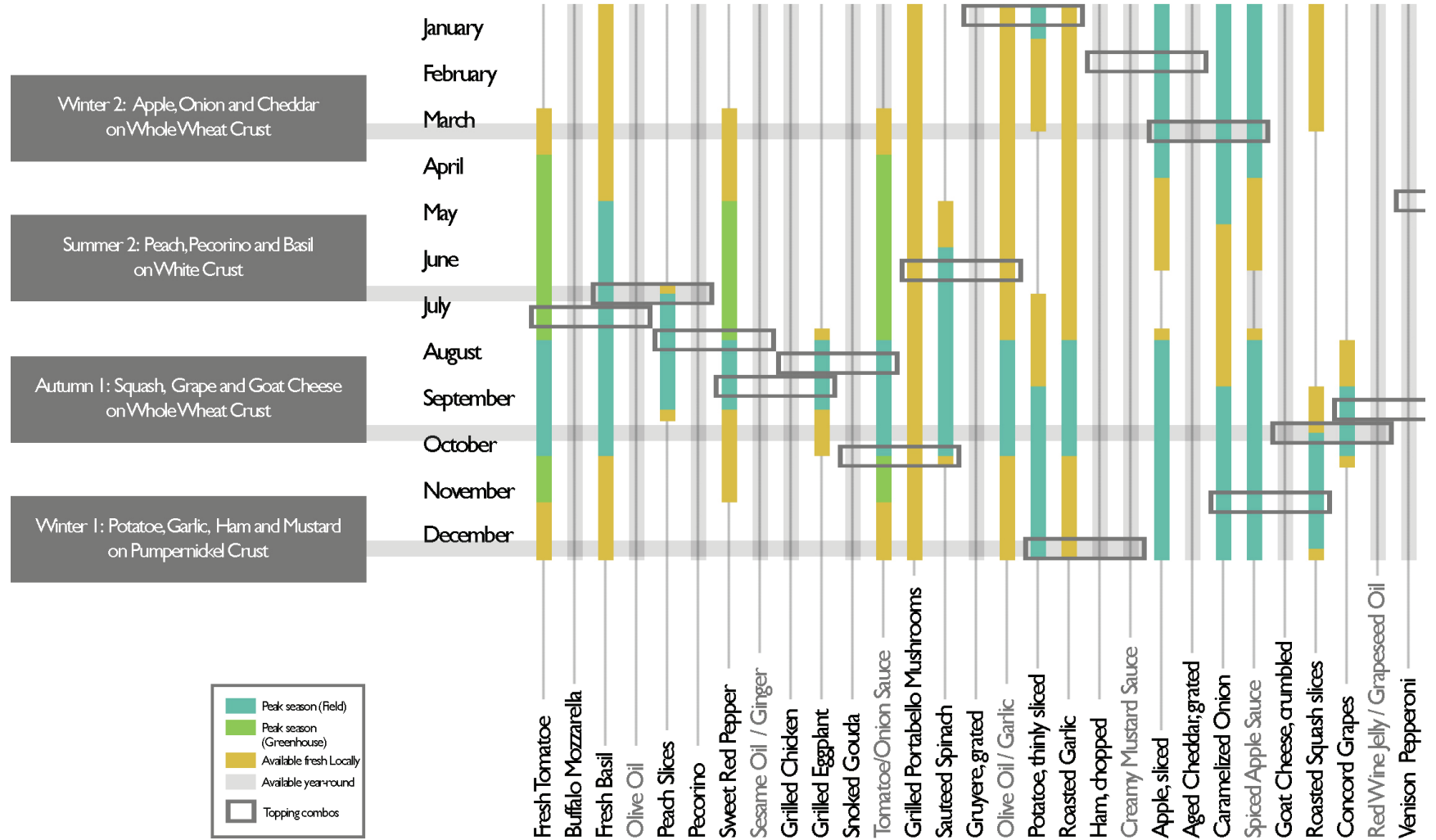


Fig. 1.5. Types of taste buds dispersed over surface of tongue.

Fig. 1.4. *Opposite*, fresh potatoes at St. Lawrence Market, Toronto, 2010.

Availability as the Basis for Pairings



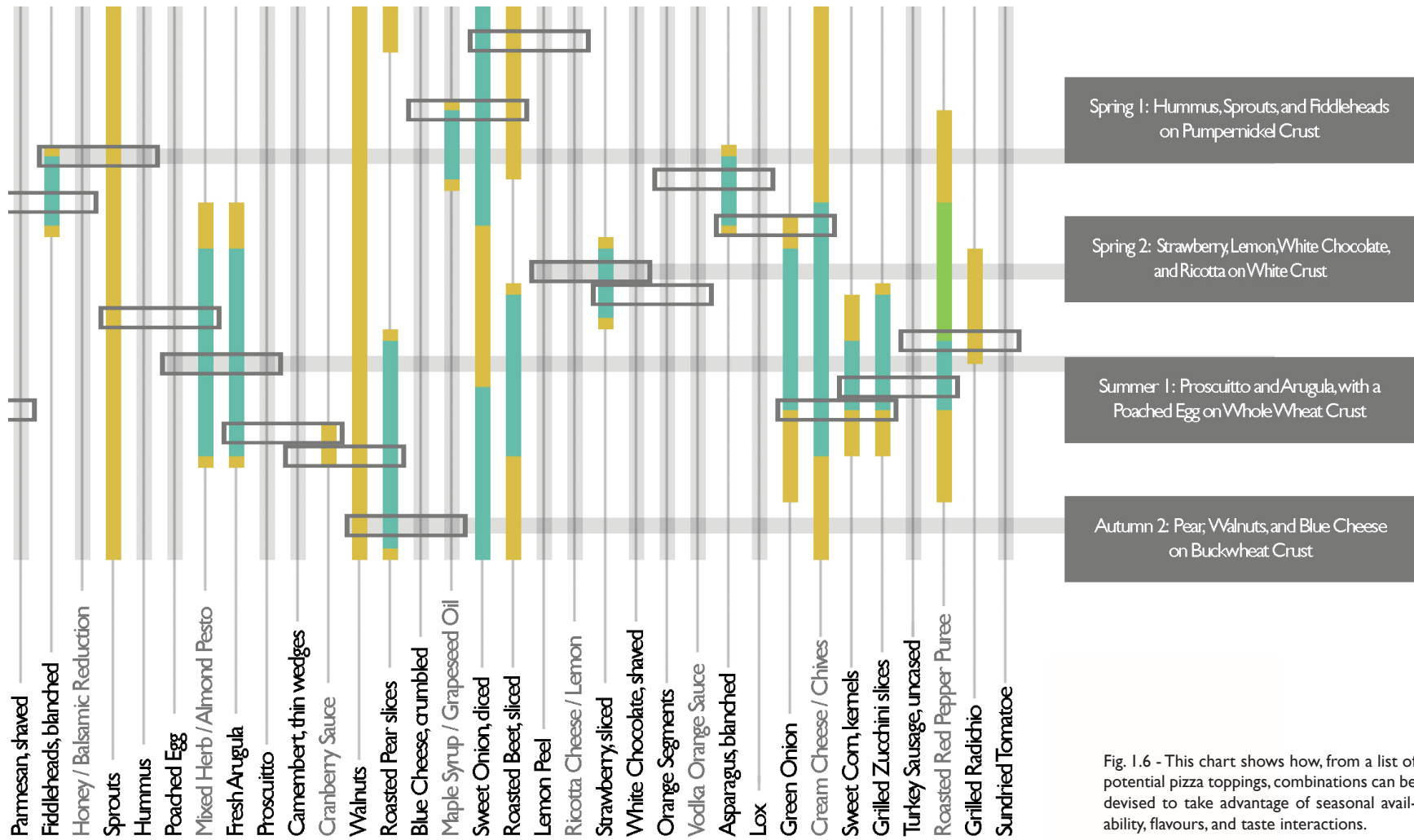


Fig. 1.6 - This chart shows how, from a list of potential pizza toppings, combinations can be devised to take advantage of seasonal availability, flavours, and taste interactions.

Flavour Functions and Cooking Tips²¹

Taste Sensations	Function	Tips
Bitter	<ul style="list-style-type: none"> • cooling • stimulates appetite • promotes other tastes 	Bitterness can be refreshing: it relieves thirst, and when it is added to a dish, it creates a sense of lightness. Bitterness performs best in these roles in cold dishes, as the perception of bitterness is reduced with increased temperature.
Salty	<ul style="list-style-type: none"> • heating • stimulates salivation • enhances other flavours 	Salt, used sparingly, diminishes the effects of bitter, sour and sweet, when those sensations may be otherwise overwhelming. It helps round out the overall flavour of a dish, and thus allow underlying flavours to surface.
Sour	<ul style="list-style-type: none"> • heating • stimulates appetite • increases thirst 	Sourness, used sparingly, may sharpen other flavours, though in large doses, it suppresses other flavours - particularly bitterness. Sweet is most tangibly enhanced by a hint of acidity.
Sweet	<ul style="list-style-type: none"> • cooling • satiates appetite 	Sweetness rounds out flavours, and may be used even in savoury dishes to help flavours blend. Sweet performs best in this role in warmer dishes, as the perception of sweet is reduced with reduced temperature.
Umami	<ul style="list-style-type: none"> • heating 	Umami adds earthiness to a dish. It may be used to counter intense sweetness, or round out bitterness or saltiness.
Astringent	<ul style="list-style-type: none"> • cooling 	Astringency is often undesirable, as many perceive a dry, rough film left on the inside of their mouth. Astringent foods are best balanced by flavours that increase salivation.
Piquant	<ul style="list-style-type: none"> • heating 	Piquancy stimulates appetite. Spiciness may also be used to enhance other flavours, whether sweet, salty, or sour.
Pungent	<ul style="list-style-type: none"> • heating 	Pungency, used sparingly, enhances other flavours, as pungent foods have strong aromas that easily reach the olfactory receptors. Excessive pungency may, however, overwhelm the senses and prevent detection of other flavours.

1.3 Fresh Flavour Combinations

Each combination of pizza toppings has a unique flavour fingerprint. Flavour sensations, such as sweet, sour and bitter, vary in intensity, and react with each other to create the total perceived flavour. Interactions between flavour sensations have been studied thoroughly, and the chart on the opposite page details some commonly accepted strategies and findings. Some combinations are subtractive, some additive, and some, in certain proportions, may increase flavour perception beyond the sum of its parts; it is the responsibility of the cook to orchestrate proportions and interactions, to allow both individual and resultant flavours to shine.

Many of the most unusual flavour pairings, however, have been scientifically based, rather than intuitive. New discoveries in the field of molecular gastronomy suggest that – based on taste being over eighty per cent olfactory – “if the major volatile molecules of two foods are the same, they might taste (and smell) nice when eaten together.” Food scientist François Benzi was the first to put this theory to the test. He showed that pork liver and jasmine - both containing the indole molecule - would compliment each other. His theory continues to produce some surprising, and tasty results. Below is a selection of pairings from a leading website on molecular gastronomy.²²

- Strawberry and coriander
- Snails and Beetroot (the flavour molecule that contributes to their earthiness is the same. It also exists in spinach and baby corn.)
- Chocolate and pink peppercorn
- Carrot and violet (ionone is the main pairing molecule here)
- Carrot and coriander
- Mango and violet
- Pineapple and blue cheese (the cheese needs a certain ketone level)
- Caraway and lavender are surprisingly interchangeable
- Cauliflower (caramelised) and cocoa

- Liver and Jasmine (similar sulphur compounds)
- Cooked cheese (like parmesan and gruyere) and honey (with a slightly chestnut character)
- Banana and parsley
- Harissa (chilli paste) and dried apricot

The following is a description of the flavour intensities, interactions, and applications of 8 seasonal pizza-topping combinations.

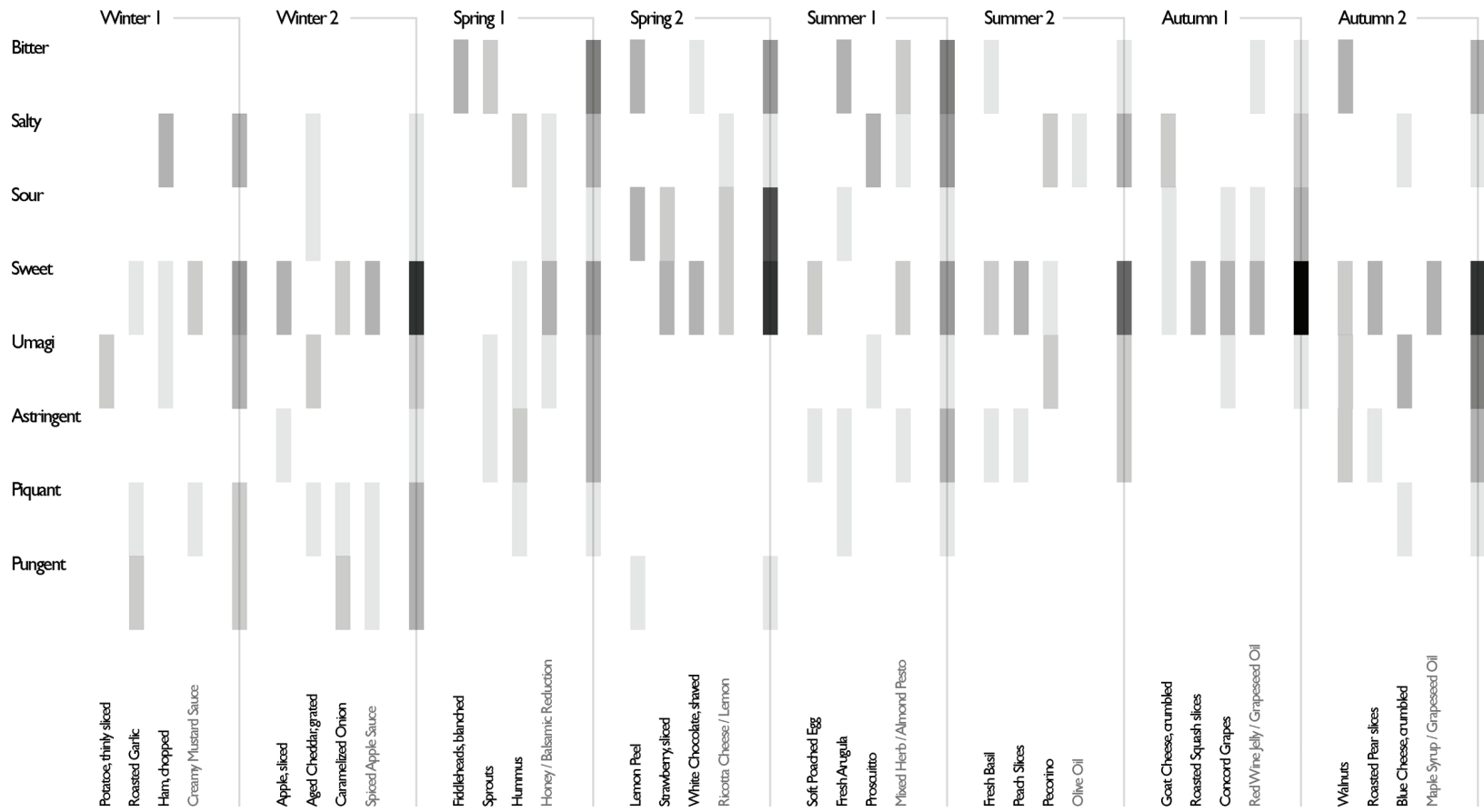
Winter 1: Sweet and savoury - enhanced with saltiness - this pizza tastes well rounded and wholesome. The piquancy and pungency create interest and contrast that evokes a greater appreciation of all flavours.

Winter 2: The apple is sweet and dessert-like. To balance that strong flavour, the onions and the cheddar are sharp and savoury. Savouriness counters mental associations with dessert.

Spring 1: The sweetness in the sauce, combined with the salty savouriness of the hummus, rounds out and balances the flavour of the sprouts and fiddleheads, whose bitterness is essential to create lightness. The astringency of this cold pizza evokes a heightened sense of freshness.

Spring 2: The sweet and sour creaminess of the lemon-infused ricotta cheese creates a softly echoing base for the powerful contrast between the baked strawberries garnished with shaved white chocolate, and the fresh lemon zest.

Summer 1: This pizza makes use of the textural qualities of ingredients to create interesting moments of interaction between distinctly different flavours: the runny yolk cascades through the fresh, piquant arugula, pools between undulations of salty-savoury baked prosciutto, and blends with the



bittersweet pesto.

Summer 2: Both warming and cooling, this sweet peach pizza is enhanced by juxtaposing fresh and savoury flavours. The basil and pecorino also share undertones of sweetness, which boosts the stark sweetness of the baked fruit. Olive oil, a relatively light, neutral flavoured base, is used to protect the crust from becoming soggy.

Autumn 1: With all toppings but the goat cheese being primarily sweet in flavour, this pizza is the sweetest of the eights featured here. The secondary flavours – the sour and the savoury – therefore become more noticeable, as they contrast the sweet and are enhanced by the saltiness of the cheese.

Autumn 2: The walnuts and blue cheese make this the most savoury pizza. In addition, the sharpness of the cheese and the bitterness of the nuts are balanced by the strong sweetness of the roasted pears and maple syrup, creating a flavour combination that is both comforting and interesting to the palette.

The chart to the left shows the intensity of flavour sensations in the eight sample seasonal topping combinations. As toppings vary in flavour complexity, many contribute to multiple sensations. Each topping is broken down in terms of tributary tastes, and weighed in accordance to proportion and intensity. The resulting flavour interactions, on the right, therefore appear as unique summations of parts.

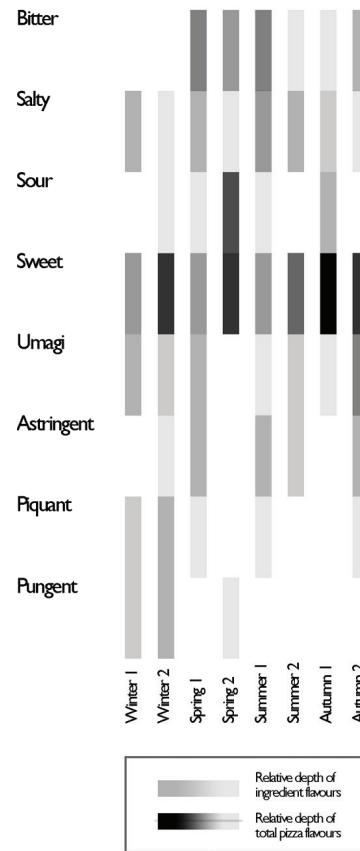


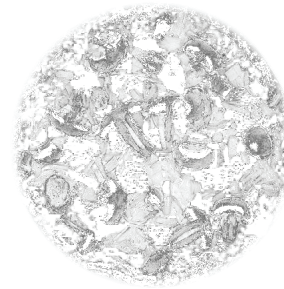
Fig. 1.7. Opposite, flavour profiles of pizza toppings.

Fig. 1.8. Left, comparison of overall pizza flavours.

Colour

Mouth Feel

Reds



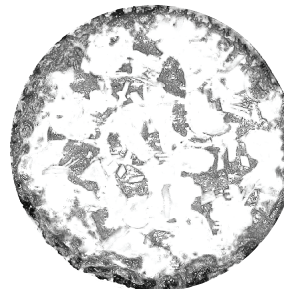
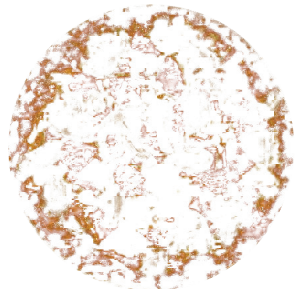
Crisp

Umber



Fibrous

Gold



Soft

1.4 Variation and Balance

Appearance and texture are also important considerations in the creation of a pizza pleasing to the senses. Using a common topping combination as an example – pepperoni, mozzarella, and mushrooms – the following analysis of colour and mouth feel, outlines some additional criteria in the design and production of a pizza.

Reds: Though the tomatoe-based sauce - brownish-red in colour - is mostly hidden under the sea of toppings and cheese, it is left uncovered around the edges of the pizza, where the cheese is sparse, and occasionally bubbles up through voids in the toppings. The meat on this pizza is also a reddish-brown, as it is beef-based and cured, which preserves the originally colour of the meat. Red evokes warmth, reinforced here by the savouriness and saltiness of the red pepperoni and sauce.

Dark Brown: These shades generally indicate over-cooking/near-burning or the presence of a meat product. Golden crust eventually turns brown if left in the oven longer than necessary, thus there is a ring of that colour on this pizza. The fibrous undersides of the dispersed mushrooms take the meat's place balancing the dark brown colour distribution, as the meat is cured, and thus more red than usual. The other similarly coloured elements are the small, scattered spots on raised bubbles of cheese.

Gold: The off-white cheese and pale crust turns a golden brown when baked in the oven. Though concentrated around the edges, where the crust is exposed to the heat and the cheese is less dense (absorbing more heat and baking more quickly), there are also patches in the middle of the pizza, where the cheese has bubbled up from the surface and is crispy. Golden/yellow colours are generally seen as appetizing, as a change to that colouring often indicates a food is ripe or finished baking.

Soft: The cheese and sauce that nearly cover the top give the pizza its typical soft, pliable, even rubbery texture. The moisture from the sauce keeps the crust from becoming crisp, and the cheese melts into a membrane-like sea of elasticized dairy. Other than the slight distinctions between types of softness - the bready crust, the rubbery cheese, and pureed sauce - this texture lacks diversity. is effective not by variety, but by consistency.

Fibrous: The most unique topping texture comes from the mushrooms, whose undersides - though softened by the heat of the oven - maintain enough of their fibrous structure to be easily distinguished by the mouth. Sparse in comparison to the cheese or pepperoni, the mushroom fibres are dispersed evenly over the pizza to increase the probability of experiencing a variety of textures in each bite.

Crispy: Most of the textural interest comes from the contrast between the soft and the crisp. The dough base, turned golden/brown by the oven, develops a hard crust around the edges where most exposed to the drying heat. The pepperoni also becomes crisp, primarily where layered over the cheese, as the soft fat liquefies, leaving higher concentrations of meat that are essentially fried until crisp, while on the pizza in the oven.

Fig. 1.9. *Opposite*, distrubution of colour and texture on a typical pizza.

Cost Comparison of Selected Pizzas	Homemade using seasonal toppings grown or bought locally	Homemade using out-of-season toppings from a grocery store			Restaurant-made, high-quality pizza		
	Topping Cost*	Topping Cost*	Difference**		Cost	Difference**	Inflation
Winter							
Apples	\$0.35	\$0.80	\$0.45				
Aged Cheddar Cheese	\$1.80	\$1.80					
Caramelized Onions	\$0.35	\$0.75	\$0.40				
Spiced Apple Sauce	\$0.60	\$1.20	\$0.60				
Whole Wheat Crust	\$0.25	\$0.25					
Total	\$3.35	\$4.80	\$1.45		\$14.50	\$11.15	433%
Spring							
Strawberries	\$0.45	\$1.25	\$0.80				
Lemon	\$0.50	\$0.50					
White Chocolate Shavings	\$0.75	\$0.75					
Ricotta	\$1.95	\$1.95					
White Crust	\$0.25	\$0.25					
Total	\$3.90	\$4.70	\$0.80		\$14.50	\$10.60	372%
Summer							
Peaches	\$0.35	\$0.80	\$0.45				
Pecorino	\$1.60	\$1.60					
Basil	\$0.10	\$0.70	\$0.60				
Olive Oil	\$0.15	\$0.15					
White Crust	\$0.25	\$0.25					
Total	\$2.45	\$3.50	\$1.05		\$12.00	\$9.55	490%
Autumn							
Roasted Acorn Squash	\$0.50	\$0.75	\$0.25				
Grapes	\$0.40	\$0.75	\$0.35				
Goat Cheese	\$1.25	\$1.25					
Red Wine Jelly with Grapeseed Oil	\$1.10	\$1.10					
Buckwheat Crust	\$0.35	\$0.35					
Total	\$3.60	\$4.20	\$0.60		\$14.50	\$10.90	403%

*Approximate cost per individual-sized pizza **Difference from homemade, seasonal pizza

1.5 The Cost of Freshness

Buying ingredients and making pizza at home reveals the potential profit and pleasure to be found in a slice. Crust (flour, egg, and a dash of salt) costs pennies per serving, and toppings – though they range drastically in price – are cheaper when bought in season from local producers. Thus, the most flavourful pizzas often cost less.

The protein products typically cost most. In Italy, where I first had thin-crust pizza, the *Formaggi* (Cheese Shops) and *Salumeria* (Delis) are plentiful; competition between businesses keeps prices in check. In Canada, however, and specifically in Ontario, good quality local cheeses and meats are scarce. Even in Niagara – a region known for its fruit and wine industries – the Pingue brothers are the only producer of cured meats. Their growing popularity and near monopoly allow them to charge high prices typically reserved for specialty imported products – starting at \$5.90 and \$8.90 per 100 grams for prosciutto and bresaola beef, respectively. That said, the flavour of Pingue meats is intense, and less may be required. The quality may worth the cost.

Cheese makers are more common in Canada, yet there are few that rise above mediocrity. Niagara hosts a few producers, and yet with its growing wine and tourism industries, most shops stock cheeses from Europe, Quebec, and specialties from Montforte (a cheese maker outside of Stratford, Ontario). Prices range from \$3.00* to \$20.00* per 100 grams, depending on age, name brand, and place of origin. Generally, the stronger the cheese, the less required, but the higher the price. Mild or unripened cheeses can be less expensive, but more is required to balance more flavourful toppings. The best cheese shops encourage customers to taste before buying.

Fruits, vegetables, herbs, and sauces are inexpensive – especially bought in season at the market. Buying produce when it is local and ripe – and thus in abundance, often priced low to sell quickly – not only cuts down on the shipping and import charges that inflate grocery store prices,



Fig. 1.10. Cheese shop at St. Lawrence Market, Toronto, 2010.

Table 1.0. *Opposite*, cost comparison chart outlining the expenses and potential savings of making homemade pizza.



but also ensures that flavour is at its peak. Frequenting markets can lead to additional savings because many vendors will throw in extra items or give deals to the customers they see returning week after week: repeat business is good business.

In total, homemade thin-crust pizzas cost between \$0.50 and \$3.00 per serving – a fraction of the cost of restaurant pizza of comparable quality. Frozen store-bought pizzas may be similar in cost to homemade pizzas, but though mass-production decreases manufacturing costs and increases shelf life, it doesn't improve the quality of the final product. Ultimately, the consumer must balance convenience, originality, or connection to community, and decide whether the time and effort required to make homemade pizza is worth it.

Fig. 1.11. *Opposite*, fresh vegetables, St. Catharines farmer's market, 2009.

Recipes: Seasonal Thin-crust Pizzas

The following recipes are intended as suggestions only, as toppings differ in quality and size depending on producer and region, and quantities can be adjusted by taste.

The crust recipe, below, may also be varied to coordinate with the topping flavours and appearance. Baking directions are for pre-made crusts – designed to expedite preparation of personal pizzas for a dinner party – and do not include time for toppings to cook. For best results, follow the baking directions associated with each topping combination. Baked, cooled, unused crusts can last 1-2 days in a sealed bag.

Basic Pizza Crust

1 package active dry yeast	½ cup whole wheat flour
1 cup warm water (105-155F)	1 tbs olive oil
1 tbs honey	1 tsp salt
2 cups unbleached all-purpose flour	2 tbs cornmeal

Directions:

1. Pour yeast into large bowl. Combine warm water and honey and pour over yeast. Allow the mixture to sit 5-10 minutes, until foamy.
2. Combine flours (or alternative dry ingredients)
3. Add olive oil and salt to yeast mixture and stir well.
4. Add 1 cup of flour mixture to yeast mixture, and stir until smooth. Add another cup of flour mixture and continue to stir until the dough forms a soft, sticky ball.
5. Sprinkle flour on a dry, flat work surface. Turn dough out of bowl, onto surface.

6. Knead dough until smooth and elastic, adding additional flour mixture if necessary.

7. Lightly oil a large bowl. Shape dough into ball, and place inside bowl. Cover with plastic wrap and allow dough to rise in a warm place until double in size. (45-60 minutes)

8. Sprinkle cornmeal over a large cookie sheet or baking stone (to prevent crust from sticking to pan)

9. Punch down dough and divide into 2-4 portions, for large or small pizzas. Use rolling pin to roll each portion into a circle, at most centimeter in thickness.

10. Place dough on pan, and place pan in oven. Bake just until crust is cooked, as it will finish baking with the toppings.

11. Remove from pan and cool on wire rack.

Variations:

White: Replace whole-wheat flour with all-purpose flour. Whole Wheat: Replace 1 cup of all-purpose flour with whole-wheat flour; add an extra 1/8 cup, if coarsely ground, and add 2 tbs. ground flax (optional). Use an extra tablespoon of olive oil. Pumpkin: Replace whole-wheat flour and ¼ to ½ cup of all-purpose flour with 1 to 1¼ cup rye flour (the darker the rye flour, the less required) and 1 tbs. unsweetened cocoa powder and 2 tsp caraway seeds (optional). Replace honey with fancy molasses. Buckwheat: Replace ½ cup all-purpose flour with equal amount buckwheat flour. Use buckwheat honey, if available. Dessert: Replace olive oil with grapeseed oil or melted butter. Reduce salt to ½ tsp and add 1-2 tbs. extra honey to yeast mixture before adding to dry ingredients (optional).



Winter: Apple, Onion and Cheddar Pizza

Vidalia onions
Aged cheddar
Crispin (Mutsu) apples, or ask a local grower for alternatives
Unsweetened applesauce
Pumpkin pie spice
Prepared, whole wheat pizza crust

Directions

1. Onions: Peel, cut in half (lengthwise), and slice into half rings. Heat large non-stick frying pan on medium heat, and drizzle a teaspoon of olive or grapeseed oil in the bottom. When oil is hot (and loses its viscosity) add onions. Stir to coat in oil. A few teaspoons of water can be added to help soften the onions, but use caution as water may interact violently when it contacts the hot oil. Continue to cook, stirring frequently to prevent burning. When onions are golden brown and slightly shrivel, remove from heat. If the pan is thick, and retains heat well, scrape onions into cool dish to prevent them from burning.
2. Apples: Wash and core. Slice thinly, with no more than one centimeter at its thickest part (at the peel). If slices are too thick, the apples will either not cook fully, or will release so much juice that it seeps through and saturates the crust.
3. Cheddar: Ensure that the cheese is cold. Shave onto clean, dry plate, and store in refrigerator until ready to use.
4. Oven: Preheat to 350 F.
5. Sauce: Mix unsweetened apple sauce with either pumpkin pie spice, or cinnamon and nutmeg in a 4:1 ratio. Sauce should be light brown in colour. Taste to ensure ample spiciness.

6. Pan: If using a metal baking sheet, sprinkle a teaspoon of cornmeal evenly over its surface before placing down prepared crust, to prevent the dough from sticking. If using a baking stone, cornmeal is optional, as the crust should naturally unbind itself from its surface once baked. Place prepared crust on pan.
7. Topping: Spread sauce evenly on pizza crust, to within 1-2 cm of the crust's edge. Top with caramelized onions, apple slices, followed by the cheese – the binding agent.
8. Baking: Place pizza on the oven's middle rack, and bake until apples are soft and cheese turns golden. The oven broiler may help brown the cheese at the end of baking time, if necessary.
9. Serving: Remove pizza from oven, and allow to sit for at least two minutes before cutting. This allows some of the juices to thicken, and reduces risk of saturating the crust. Serve hot.

Fig. 1.12. *Opposite*, apple, onion & cheddar pizza



Spring: Strawberry, Lemon, and White Chocolate Pizza

Strawberries
1 lemon
White chocolate
Ricotta cheese
Icing sugar
Prepared, white (dessert) pizza crust
Cheese cloth or coffee filter.

Directions:

1. Ricotta: To drain the ricotta, first line the inside of a strainer with cheese cloth (or a coffee filter) and place over a large bowl. Ensure that there is at least an inch of space between the bottom of the strainer and the bowl. Place ricotta inside strainer and press down and onto sides – no higher than the cloth/filter. Cover with plastic wrap and place in refrigerator overnight, or for at least 6 hours.
2. Lemon: When ricotta is ready to use (with little extra moisture) use a fine grater to zest the lemon. Mix a small portion into the ricotta – to taste.
3. Sugar: Add icing sugar to lemon and ricotta, a teaspoon at a time – to taste.
4. Strawberries: Wash strawberries, remove tops, and slice – no thicker than 1 centimeter. Place into bowl and toss with a teaspoon or two of freshly-squeezed lemon juice.
5. White chocolate: Ensure that chocolate is cold. Shave onto clean, dry plate, and store in refrigerator until ready to use.
6. Oven: Preheat to 350 F.

7. Pan: If using a metal baking sheet, sprinkle a teaspoon of cornmeal evenly over its surface before placing down prepared crust, to prevent the dough from sticking. If using a baking stone, cornmeal is optional, as the crust should naturally unbind itself from its surface once baked. Place prepared crust on pan.
8. Topping: Spoon ricotta onto crust and spread out until 1 to 1 1/2 centimeters thick, and within 1-2 cm of crust's edge. Top with sliced strawberries.
9. Baking: Place pizza on the oven's middle rack, and bake until strawberries and ricotta are heated through.
10. Serving: Remove pizza from oven. Sprinkle with shaved white chocolate. Squeeze wedge of lemon over pizza. Cut, and serve hot.

Alternative: This pizza can also be served cold. Bake crust with ricotta cheese mixture and allow to cool before topping with strawberries, chocolate and fresh lemon juice.

Fig. 1.13. *Opposite*, strawberry, lemon & white chocolate pizza



Summer: Peach, Pecorino, and Basil Pizza

Peaches
Pecorino cheese
Fresh basil
Olive oil
Lemon juice (optional)
Prepared whole-wheat crust

Directions:

1. Peaches: Wash, cut in half, remove pit (if freestone variety), and slice, maintaining no more than one centimetre of peel on each piece. Place into a clean bowl and toss with a teaspoon of lemon juice, if desired, to prevent browning. Set aside.
2. Pecorino: Ensure that the cheese is cold. Shave onto clean, dry plate, and store in refrigerator until ready to use.
3. Basil: Wash individual leaves and pat dry. Tear basil into small pieces or leave whole. Do not cut basil as it causes bruising, and thus alters the flavour.
4. Oven: Preheat to 350 F.
5. Pan: If using a metal baking sheet, sprinkle a teaspoon of cornmeal evenly over its surface before placing down prepared crust, to prevent the dough from sticking. If using a baking stone, cornmeal is optional, as the crust should naturally unbind itself from its surface once baked. Place prepared crust on pan.

6. Topping: With a pastry brush, spread olive oil lightly over crust, to within 1-2 cm of the edge. Top with peach slices, followed by the pecorino. Try to overlap the cheese with the peach slices and crust to help bind everything together.
7. Baking: Place pizza on the oven's middle rack, and bake until cheese is melted and peaches are cooked through.
8. Serving: Remove pizza from oven. Sprinkle with fresh basil. Cut, and serve hot.

Alternative: This pizza can also be served cold. Bake crust with olive oil until crispy. Allow crust to cool before topping with fresh peach slices, shaved pecorino and basil.

Fig. 1.14. *Opposite*, peach, pecorino, & basil pizza



Autumn: Roasted Squash, Grape, and Goat Cheese Pizza

Acorn squash
Grapes (Concord or red seedless)
Goat cheese
Red wine jelly
Grapeseed oil
Prepared, buckwheat pizza crust

Directions

1. Squash: cut acorn squash in half from top to bottom and remove seeds. Cut into 1/4" slices across its width (to get scalloped outside edge.) Toss with a teaspoon of grapeseed oil and arrange on baking sheet. Drizzle with a bit of wildflower honey, sprinkle with salt, and bake uncovered at 350F, until peel turns crisp and squash is tender. Remove peel and cool.
2. Grapes: remove from stems and rinse under cool water. Spread out on paper towel and dab to remove remaining water. Cut large grapes in half, if desired.
3. Goat Cheese: Remove portion from package and crumble into small, clean bowl. Set aside in refrigerator until ready to use.
4. Oven: Preheat to 350 F.
5. Sauce: Combine red wine jelly and grapeseed oil into 2:1 ratio, whisking with a fork. For smoother consistency, warm mixture in microwave or on stove before whisking.
6. Pan: If using a metal baking sheet, sprinkle a teaspoon of cornmeal evenly over its surface before placing down prepared crust, to prevent the dough from sticking. If using a baking stone, cornmeal is optional, as the crust should naturally unbind itself from its surface once baked.

Place prepared crust on pan.

7. Topping: Spread sauce evenly on pizza crust, to within 1-2 cm of the crust's edge. Top with roasted squash slices, grapes, followed by the cheese – the binding agent.
8. Baking: Place pizza on the oven's middle rack, and bake until cheese is melted.
9. Serving: Remove pizza from oven, and allow to sit for at least two minutes before cutting. This allows some of the juices to thicken, and reduces risk of saturating the crust. Serve hot.

Additional Seasonal Topping/Crust Suggestions:

Winter: Potatoe, Roasted Garlic and Ham on Pumpernickel Crust
Spring: Hummus, Sprouts and Fiddleheads on White Crust
Summer: Proscuitto, Arugula and Poached Egg on White Crust
Autumn: Pear, Walnuts and Blue Cheese on Whole-wheat Crust

Fig. 1.15. *Opposite*, roasted squash, grape, & goat cheese pizza

Nutrition



Maple-Roasted Squash Soup

The human body requires different foods for good health. We include too much of some foods, such as fats and sugars, in many recipes. One easy way to prevent this, and enjoy better food, is to choose simply prepared foods, from traceable sources. Though such foods may be “local” and delicious, they may not be healthy – but at least their ingredients are more intelligible than those of processed foods, and easily modified to suit. To modify a recipe to replace or reduce ingredients, without compromising taste or texture, the chef must understand both material properties and preparation processes to find new satisfying combinations.

2.1 First Encounter

Treadwell is a “Farm-to-Table” restaurant in Port Dalhousie, Ontario, specializing in seasonal fare sourced locally.

The daily soup, that late September day, was maple roasted butternut squash – a favourite of the employees. The chef was off that day, and his assistant had prepared the soup and offered free samples to staff. A single white, asymmetrical bowl sat on the table, just inside the door leading to front of house, half-filled with the yolk-coloured squash soup and crowned with a glistening swirl of maple syrup. A handful of spoons lay beside the bowl – an invitation to indulge.

The soup coated my mouth in sweet silk – more confection than first course. The smooth texture of the pureed squash, and the lingering aftertaste of maple and cream, made the soup irresistible. With a new spoon, I went in for a second sample.

Later that day, one of the serving staff came out from the kitchen with a piece of white paper in hand – the recipe. Apparently, the assistant chef was sharing secrets. Before tucking the paper into her purse, she made a stop at the photocopier to share her good fortune.



Fig. 2.1. Treadwell logo



*Slow Food Manifesto*²³

Our century, which began and has developed under the insignia of industrial civilization, first invented the machine and then took it as its life model.

We are enslaved by speed and have all succumbed to the same insidious virus: Fast Life, which disrupts our habits, pervades the privacy of our homes and forces us to eat Fast Foods.

To be worthy of the name, Homo Sapiens should rid himself of speed before it reduces him to a species in danger of extinction.

A firm defense of quiet material pleasure is the only way to oppose the universal folly of Fast Life.

May suitable doses of guaranteed sensual pleasure and slow, long-lasting enjoyment preserve us from the contagion of the multitude who mistake frenzy for efficiency.

Our defense should begin at the table with Slow Food. Let us rediscover the flavors and savors of regional cooking and banish the degrading effects of Fast Food.

In the name of productivity, Fast Life has changed our way of being and threatens our environment and our landscapes. So Slow Food is now the only truly progressive answer.

That is what real culture is all about: developing taste rather than demeaning it. And what better way to set about this than an international exchange of experiences, knowledge, projects?

Slow Food guarantees a better future.

Slow Food is an idea that needs plenty of qualified supporters who can help turn this (slow) motion into an international movement, with the little snail as its symbol.

2.2 Local, Seasonal, and Slow

The original squash soup recipe was created at Treadwell, a Farm-to-Table restaurant – not a new type of cuisine, but a revisit of an old one. Though the cooking philosophy began out of necessity – country folk eating only what they could produce themselves, barter, or buy at the local market – it was recaptured in the last few decades by a generation of Europeans (and more recently, North Americans) seeking to reconnect with the land and counter internationalism. Bolstered by recent publications, such as *The Omnivore’s Dilemma*²⁴ and *Fast Food Nation*²⁵, and promoted by organizations – Slow Food and CSA networks,²⁶ for example – there is an emerging mandate to know and appreciate where foods come from.

Slow Food is perhaps the best known of the movements in opposition to both fast foods and fast-paced lifestyles. Now a multi-national organization, it began with a group of young people from Bra, a city in the Piedmont region of Italy, who were connected with ARCI (*Associazione Ricreativa Culturale Italiana*).²⁷ Their commitment to culture and social activism drew attention to the destructive effects of industrialization in the mid 1970s. In 1980, the group went on to form the *Free and Praiseworthy Association of the Friends of Barolo* (the famous red wine native to the nearby Langhe region). Their aim was to “create awareness of local products and awaken people’s attention to food and wine and the right way to enjoy them.”²⁸ The group encouraged a new kind of tourism based on culinary explorations, organized tasting courses and networks to distribute specialty goods by mail order. In July of 1986, 62 founding members came together to form an organization called *Arvigola*, a newly autonomous offshoot of ARCI, solely interested in the culture of food and wine. In the next 3 years, membership in *Arvigola* grew to about 8000, as curiosity was fostered by publications, restaurant and wine reviews, organized tastings and trips.²⁹ Local food enthusiasts began to defend their own culinary traditions as well as their right to a relaxed, convivial enjoyment of cuisine. The organization’s name was later changed to “Slow Food”, inspired by the group’s

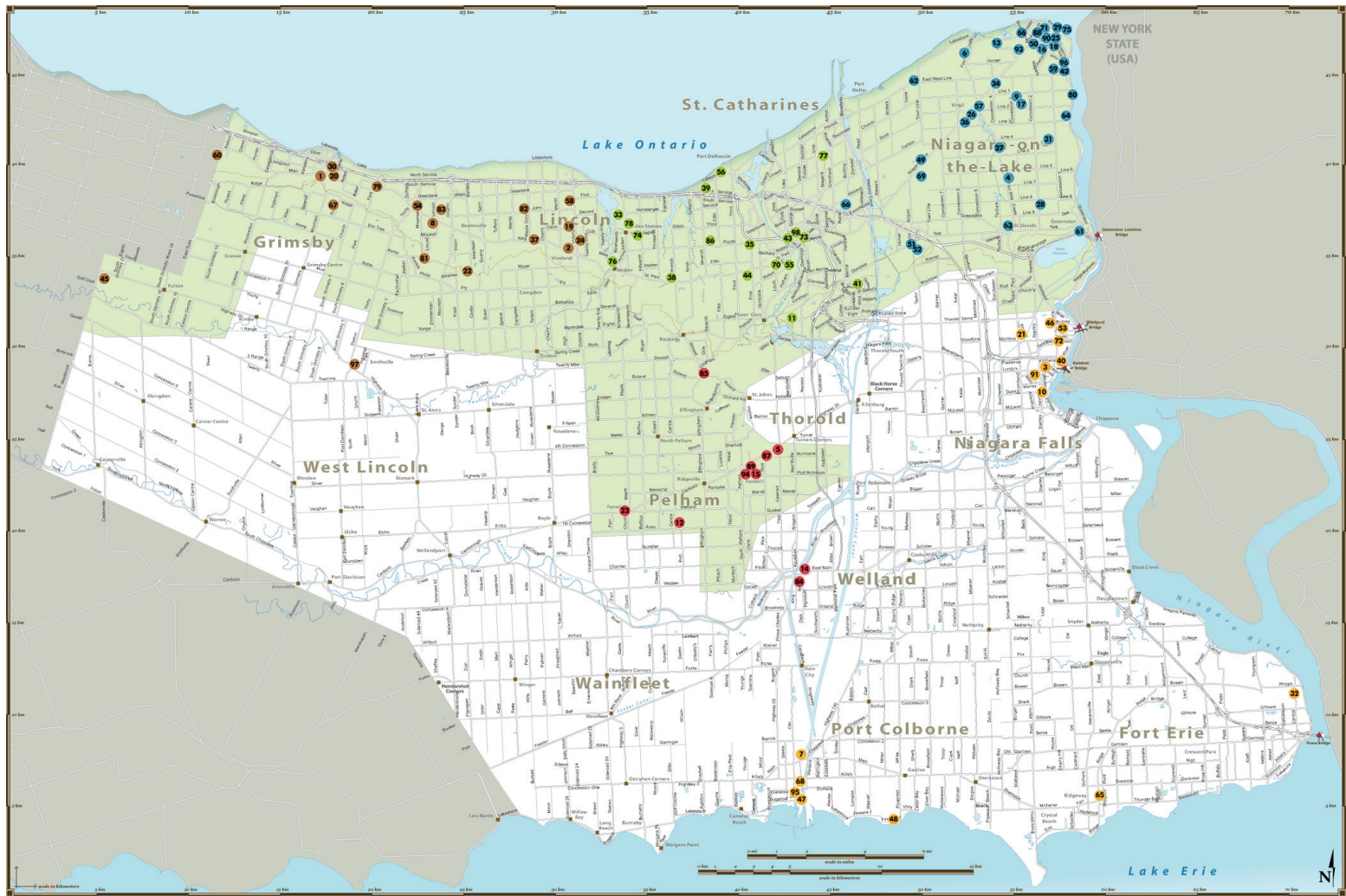


Fig. 2.3-2.5. Images of dishes prepared at Treadwell Farm-to-Table Cuisine.

Fig. 2.2. *Opposite*, snail, the logo of Slow Food.



Fig. 2.6-2.8. Popular books and movies about the fast food crisis in North America.



direct opposition to the undesirable spread of fast food in Italy, and the demonstrations against the opening of McDonald's across from the Spanish Steps in Rome.

The Slow Food movement gained international recognition and support when delegates from the original 15 countries met on November 9, 1989 and endorsed the official manifesto, written by Folco Portinari.³⁰

In the last twenty years, the consequences of eating highly processed and fast foods have become better understood; the social effects remained relatively unnoticed, except by farmers forced to ship produce across the continent for lack of local markets. Recently, a trend towards conscientious consumption has helped revitalize community agriculture networks, and made “going to the market” popular. Even software companies are beginning to address this trend, with new smart phone technology appealing to those in urban environments, without access to farm-direct seasonal produce; applications help determine what fruits, vegetables, meats and cheeses are currently available in the region, locate and rank distributors by consumer rating and proximity.

Farm-to-Table chefs address the appetite for the freshest food from responsible food sources in a restaurant setting. By relying on the seasonal produce and the expertise of local artisans to determine the menu, and by preparing and plating the foods simply to preserve the sensual impact of each ingredient, chefs showcases the best their region has to offer. Treadwell maple-roasted squash soup does just that.

A reoccurring daily soup special from September to December – prime squash season in Niagara – maple-roasted squash soup celebrates the vegetable's best qualities. The roasting helps convert much of its starch into sugar, reduces water content, concentrating its flavour. Its natural sweetness is further augmented by the maple syrup that caramelizes in the oven, the apples – another seasonal ingredient – and by the salt used to enhance by contrast. The creamy texture of the soup helps it coat the inner surfaces of the mouth and throat so the diner feels the soup stimulating taste buds and reaching olfactory receptors.



Each of the 5 culinary regions are colour coded so you can navigate within a colour. The maps and the information in this guide give you a great starting point; travel through the back roads to discover it all and don't forget if you want to travel from region to region, use the centre fold out map for a complete view of Niagara.

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- Region 3: Field to Fork.....27
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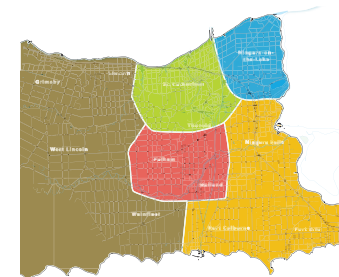


Fig. 2.10. Above, regions of focus in the Niagara Culinary Trail guidebook.

Fig. 2.9. Opposite, map showing points of interest on the Niagara Culinary Trail, an organization begun to celebrate and support local producers in the Niagara Region. N.C.T. has brought the philosophy of Slow Food to Ontario.



My Food Guide

Name: _____

My Recommended Food Guide Servings per day

My Numbers Woman aged 19 to 30
















Vegetables and Fruit 8
 Eat at least one dark green and one orange vegetable each day. Choose vegetables and fruit prepared with little or no added fat, sugar or salt. Have vegetables and fruit more often than juice.

Grain Products 7
 Make at least half of your grain products whole grain each day. Choose grain products that are lower in fat, sugar or salt.

Milk and Alternatives 2
 Drink skim, 1% or 2% milk each day. Select lower fat milk alternatives.

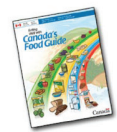
Meat and Alternatives 2
 Have meat alternatives such as beans, lentils and tofu often. Eat at least two Food Guide Servings of fish each week. Select lean meat and alternatives prepared with little or no added fat or salt.

My Examples Each example represents 1 Food Guide Serving

 Asparagus, 125 mL, ½ cup, 6 spears	 Mesclun mix, 250 mL, 1 cup raw	 Sweet potato, 125 mL, ½ cup	 Apple, 1 medium	 Berries, 125 mL, ½ cup	 Grapefruit, ½ fruit
 Brown rice, 125 mL, ½ cup cooked	 Whole wheat tortilla, ½ piece, 35 g	 Rice cake, 2 medium			
 Milk, 1%, 2%, skim, 250 mL, 1 cup	 Cheese, cottage, 250 mL, 1 cup				
 Beans, 175 mL, ¾ cup	 Eggs, 2	 Chicken, 75 g (2 ½ oz) / 125 mL (½ cup)	 Fish, fresh or frozen, 75 g (2 ½ oz) / 125 mL (½ cup)		



Build 30 to 60 minutes of physical activity into your day everyday



Use with Canada's Food Guide

Here are the examples you chose:

- Aerobics
- Running
- Yoga



www.healthcanada.gc.ca/foodguide



2.3 The Canada Food Guide

The Canada Food Guide is published by the Health Canada to promote “nutrient standards and the prevention of chronic disease.”³¹ It is an evolving document that changes in response to scientific understanding and shifting patterns in food consumption. The newest version, published in 2007, is a marked change from its 1992 predecessor. In addition to making general recommendations on daily intake of the four food groups – the standard content since first published in 1942 – the editors have a supplementary guide for First Nations, Inuit and Métis, to better reflect their cultural history and resources. The editors have also adapted the guide to reflect preference for different ethnic foods. It is currently available in 12 languages – English, French, Arabic, Chinese, Farsi, Korean, Punjabi, Russian, Spanish, Tagalog, Tamil and Urdu – to address new Canadian populations.³²

Health Canada has included a new online “My Food Guide” tool aimed at helping Canadians create personalized food plans.³³

After the user enters age, gender, and examples of preferred foods from each food group, he or she might expect a meal plan, perhaps a way of evaluating meals or recipes, or at the very least, a few examples of what a healthy day of eating could look like. Such efforts, however, yield nothing more than a customized PDF of the guide showing the user’s food and activity selections. To be of any real benefit, “My Food Guide” should be more comprehensive – comparing current diet with the idealized diet, weighing caloric requirements against calories burned, and suggesting daily meal plans to accommodate personal nutritional needs and goals.

The revised Food Guide, however, focuses on foods to avoid, and on portions. This was in response to a 2001 Canadian Community Health Survey that found a 24% increase in the number of obese 20-64 year old Canadians (almost 2.8 million) in the previous 6 years.³⁴ A person aged 19-30 now has a daily recommended intake of no more than 2-3 Tbs. (30-45mL) of non-saturated oils³⁵, and, depending on activity level, 1900-2350

calories (for women) and 2500-3000 calories (for men) ages 19-30.³⁶

A 500ml serving of the squash soup recipe I obtained from Treadwells contains 33 grams of fat and 43 grams of sugar - 600 calories in total.

Though sugar and fat may enhance the flavour and texture of food, cutting them back may increase the overall enjoyment of it – and makes for a new recipe.

Fig. 2.11. *Opposite*, example of a personalized food guide, produced by the My Food Guide tool on the Health Canada website.

Original Squash Soup Statistics

Nutrition Facts	
Serving Size Custom Food 500g (500 g)	
Amount Per Serving	
Calories 600	Calories from Fat 297
% Daily Value*	
Total Fat 33g	51%
Saturated Fat 11g	55%
Trans Fat	
Cholesterol 54mg	18%
Sodium 612mg	25%
Total Carbohydrate 80g	27%
Dietary Fiber 2g	8%
Sugars 43g	
Protein 5g	
Vitamin A	547% • Vitamin C 70%
Calcium	18% • Iron 15%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
© www.NutritionData.com	

Revised Squash Soup Statistics

Nutrition Facts	
Serving Size Custom Food 500g (500 g)	
Amount Per Serving	
Calories 324	Calories from Fat 54
% Daily Value*	
Total Fat 6g	9%
Saturated Fat 2g	10%
Trans Fat	
Cholesterol 6mg	2%
Sodium 423mg	18%
Total Carbohydrate 68g	23%
Dietary Fiber 3g	12%
Sugars 33g	
Protein 5g	
Vitamin A	545% • Vitamin C 99%
Calcium	19% • Iron 14%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
© www.NutritionData.com	

2.4 Methods for Recipe Makeover

1. To make recipes healthier, the cook's first step is to identify key attributes to preserve – in this case sweet, creamy, and smooth – and areas for improvement – high fat and sugar content, timely preparation. He or she must then analyze the flavour and texture, and propose potential substitutions that add nutritional value.

2. To reduce fat, one strategy is to cut down on oils. The original soup recipe called for excessive amounts of grapeseed oil to roast the fruit and vegetables. Deeper roasting pans, and lower oven temperatures eliminate the need for most of the oil, however, as they allow the natural juices of the squash and apples to prevent them from burning or sticking to the pan.

Another way to reduce the fat in a recipe is to replace dairy ingredients to cut back on milk fats. Heavy whipping cream is 37% fat but has a similar taste as 3% milk – or as suggested by the revised recipe, a blend of half and half (10%) cream and skim (0%). 3% is the minimum percentage of milk fat before a soup becomes watery.

3. To create creaminess without using cream, the cook can whip the soup in a blender until smooth. In the resulting emulsion, infused air pockets act like fat molecules to cushion suspended particles as they pass over the tongue and down the throat.

4. To cut back on calories, the cook may use naturally sweet ingredients to replace those high in simple sugars – such as sweet red peppers to replace maple syrup in the revised maple-roasted squash soup. The peppers also provide 30% of the daily Vitamin C requirement. Fresh-ground black pepper garnishes the soup, as opposed to the swirl of maple syrup used by the original chefs at Treadwell, and accentuates sweetness with spice.

5. To make preparation more efficient without compromising quality, the cook may multiply the recipe. This strategy cuts down on time spent setting up and cleaning, and in the case of this soup, uses the same amount of energy as a single recipe to roast more ingredients. As maple-roasted squash soup maintains flavour and textural integrity extremely well in the freezer, the cook can also preserve any leftovers to create convenient, ready-to-thaw meals.

Fig. 2.12. *Opposite*, nutrition labels generated using the tool on the NutritionData.com website, displaying improvements made to the nutrition of the original squash soup recipe.



Recipe: Maple Roasted Squash Soup

(Original)

2 large butternut squash, peeled and cubed
2 large (3 medium) onions, rough chopped
2 large apples, cored and rough chopped
2 large carrots, peeled and rough chopped
8 cloves garlic, peeled
1 ½ + ¼ cups maple syrup
1 cup grape seed oil
Water
2 cups whipping cream
Salt and pepper

(Revised)

2 large butternut squash, peeled and cubed
2 large (3 med) Vidalia onions, rough chopped
2 large apples, cored and rough chopped
2 large carrots, peeled and rough chopped
1 red bell pepper, rough chopped
8 cloves garlic, peeled
1 cup maple syrup
¼ cup grape seed oil
Water
¾ cup 10% cream + 1¼ cup skim milk (or 2 cup whole milk)
Salt and pepper

Directions (for Revised Recipe)

1. Prepare squash, onions, apples, carrots (red pepper) and garlic and put into two large roasting pans.
2. Drizzle with the maple syrup and grape seed oil and toss.
3. Roast in preheated oven (@ 350F) for about 30 minutes, or until veggies are fully cooked and tender.
4. Remove veggies from oven and let cool
5. Put all veggies (and their juice) in large pot and add enough water to cover. (seems strange, but it's the best way to approximate the right amount of water.)
6. Transfer - batch at a time - into blender, and puree until smooth. Pour into separate bowl until large pot is emptied. Pour all pureed soup back into pot.
7. Add cream and milk.
8. Add salt and pepper to taste.
9. Reheat soup, stirring frequently to prevent boiling.

Fig. 2.13. *Opposite*, revised maple-roasted squash soup.

Chemistry



Berry Bran Muffins

Chemical composition may determine ingredients included in a recipe, and the quantity to use. Some ingredients have nutrients with specific benefits to the body. Their growing conditions and processing (or lack thereof) increase their potency and make them attractive to health-conscious chefs. Other ingredients undergo, or assist with, chemical reactions that improve the texture of the food – adding airiness or density, dryness or moisture. As the presence of such ingredients cannot be measured by the senses, the chef, when including them in a new recipe, must weigh which ingredients can or should be altered, and measure quantities to ensure desirable, replicable results.

Snacks & Baked Goods		servings size	calories	total fat (g)	saturated fat (g)	trans fat (g)	cholesterol (mg)	sodium (mg)	carbohydrates (g)	fibre (g)	sugars (g)	protein (g)	vitamin A %	vitamin C %	calcium %	iron %
Muffins																
	Banana Nut	128g	390	17	2	0.1	15	510	56	2	26	6	0	2	6	15
	Blueberry	128g	330	11	1.5	0	15	580	55	2	27	4	0	0	4	15
	Chocolate Chip	128g	430	16	5	0.3	15	580	69	2	40	5	0	0	6	20
●	Blueberry Bran	128g	300	10	1	0	10	770	53	5	25	6	0	6	4	25
●	Cranberry Blueberry Bran	128g	290	10	1.5	0	10	710	51	5	24	5	0	8	4	20
●	Raisin Bran	128g	360	10	1.5	0	10	790	65	6	37	6	0	6	6	25
	Cranberry Fruit	128g	350	12	1.5	0	15	560	59	2	31	4	0	6	6	15
	Fruit Explosion	128g	360	11	1.5	0	15	550	61	2	32	4	0	4	6	15
	Strawberry Sensation	128g	350	11	1.5	0	15	580	61	1	31	4	0	10	6	15
●	Wheat Carrot	128g	400	19	2.5	0	10	660	55	4	26	6	15	10	4	20
●	Low Fat Cranberry	128g	290	2.5	0.5	0	0	750	62	2	31	4	0	4	4	15
●	Low Fat Blueberry	128g	290	2.5	0.5	0	0	750	62	2	32	4	0	0	4	15
●	Whole Grain Raspberry	128g	400	17	4	0.1	15	580	58	5	26	5	0	4	6	30

3.1 Online Recipe Sharing

It's not easy to eat healthily when fast food chains and drive-thru coffee shops are such integral parts of our daily routine. Few people question what ingredients are in the foods they order – preferring to eat first, and ask questions later. Tim Hortons, arguably Canada's most popular chain, has done little to break this unhealthy trend: though the company posts nutritional information online, few locations make that information readily available at the counter. Instead, they keep a product reference binder on hand in case of allergy concerns, and pull it out only if requested. Customers are left to rely on recommendations and names of foods – both of which tend to be misleading and/or vague. Tim Hortons' Cranberry Blueberry Bran Muffin, promoted as the healthiest of their muffins, is a key example: though cranberries, blueberries and bran are well-recognized health foods, their benefits are far outweighed by the fat and sugar in the muffin recipe.

The mission: to make the most nutritional “super muffin” possible. First step: find a base recipe. Successful baking depends as much on chemical reactions as flavour combinations. It is important for a cook to have a general idea about the quantities of active ingredients in relation to dry and wet proportions. From there, the cook can add, subtract and adapt the recipe to accommodate the health foods he or she sees fit.

Finding a base recipe used to necessitate pouring over recipe books, and searching indexes for mention of ingredients or dishes. Online search engines now make the process much easier. There are a growing number of recipe websites to support and inspire cooks, but the most useful sites are those that allow multiple filters to narrow search results.

The base recipe for my Berry Bran Muffins came from Recipezaar, a user-friendly recipe database that can be browsed or searched by course, ingredient, cuisine, diet, occasion and preparation. By using the nutrition filters to set additional recipe parameters – in this case low-fat, low sugar and high fibre – I came up with a list, ranked by user rating, and

decided on the Healthy Wheat Bran and Flax Meal Muffin recipe, posted by chef #508256 on June 11, 2007. It called for natural wheat bran – as opposed to All Bran cereal – incorporated flax seed, artificial sweetener instead of sugar, and ingredients that I had experience using as healthy substitutions for fatty and/or processed ingredients.

Fig. 3.1. *Opposite*, nutritional information of Tim Hortons Cranberry Blueberry Bran Muffin.



3.2 Wild Blueberries: Better, not bigger.

“Plants, it turns out, are a lot like people. It typically takes some kind of challenge to bring out the best in them.”³⁷

- Mary Ann Lila

Though transformations in agriculture bring us many advantages – increasing seasonal yield by reducing losses due to disease and insects, and enhancing the size, visual uniformity, and thus the marketability of a higher percentage of produce – they can also, in some cases, take away from the product’s naturally healthy components. Cultivated, commercial foods are pampered relative to their wild equivalents, and have no need for natural defences to limit their size and boost the nutrient concentration that makes them so valuable to our diet.³⁸ The flavonoid-rich blueberry, proven to reduce cellular damage and the effects of aging, improve cardiovascular and brain functioning, and reduce the risk of cancer, is a perfect example.³⁹

Mary Ann Lila, a plant scientist at the University of Illinois who has been focusing her research on the nutritional compounds in berries, stresses the importance of abiotic stress, including drought, extreme ultraviolet radiation, or cold temperatures. “Modern breeding focuses on qualities to attract the consumer. When we increase the size of a fruit, it is at the expense of the secondary components that would be greater in the wild plant” – particularly in northern climates, Lila explains, where the harsh growing season produces berries with flavonoid concentrations equal to medicinal, “nutraceutical” values.⁴⁰

Such plant adaptations are also sympathetic to the needs of the inhabitants of the area, and further the argument for eating food found locally. Before grocery stores began shipping and stocking foods from all over the world, people were forced to sustain themselves from the land – a difficult task in northern parts of the country. The naturally occurring, higher doses of nutrients found in local wild produce, however, help supplement, through quality, the reduced quantity in those climates.⁴¹

Fig. 3.2 *Opposite, left*, a cultured blueberry

Fig. 3.3 *Opposite, right*, a wild blueberry

Top 10 Baking Tips⁴²

1. When preparing ingredients, mix wet ingredients in one bowl, and dry ingredients in another. Next, make a well in the dry ingredients to hold the wet ingredients, and mix together. Some recipes may instruct a different method of mixing. Follow those directions and add ingredients in order that the recipe dictates.

2. Avoid over-stirring when making muffins. Do not stir or beat batter until it is smooth and lump free. Muffin batter should be lumpy. Stir just until the ingredients are moistened. Muffins will have large holes, and a tough, dense texture with if the batter is over-stirred.

3. Measure ingredients carefully, and level off excess with a knife. Sift flour for best results. Use fresh baking soda and powder as these are needed to allow muffins to rise correctly.

4. To keep nuts and fruit pieces from sinking in the batter while baking, dust them with flour before adding to batter, or toast nuts first. Another option is to sprinkle the nuts across the top of the batter; instead of mixing them in. This way the nuts will toast while the muffins bake.

5. Don't overfill the cups with batter; fill no more than 3/4 full. This gives the muffins room to develop round, rather than flat tops. Use an ice cream scoop, or other similar scoop, to fill cups to be sure the batter is evenly portioned. Muffins will bake uniformly. Cover any leftover batter and refrigerate while the first batch of muffins bake.

6. To ensure round muffin tops, grease only the bottom and half-way up the sides of the muffin cup using a pastry brush. Paper liners allow for easier muffin removal and clean-up.

7. If there isn't enough batter to fill all cups in a muffin tin, fill the empty muffin cups 1/2 full with water. This will help the muffins bake evenly and protect the pan. Some bakers also suggest always filling one cup with water to help keep muffins moist and prevent edges from burning while baking.

8. Turn on the oven before starting to mix ingredients to make sure the oven is preheated to the right temperature when ready to bake. Place the muffin pan on the middle rack of the oven.

9. Muffins are done baking when the tops are golden and spring back lightly when touched, or when a toothpick inserted in their centre comes out clean.

10. Once the muffins are done baking, and taken out of the oven, let them sit in the tin for a few minutes before removing each muffin. This helps prevent them from falling apart. Sit the pan on a cool wet towel to help the muffins come loose from the cups and prevent them from sticking to the bottom. Do not keep muffins in the tin too long (no more than 5 minutes) or they will become soggy.

3.3 Baking

Baking, unlike cooking, relies on chemical reactions to achieve the right form and texture. Measurements and methods must be precise, making improvisations difficult. Recipe templates are often used to determine required proportions of chemical agents, and approximate ratios of dry and wet ingredients. Muffins, though small, can be as sensitive as cakes, though much easier – and less expensive – to experiment with.

The base recipe for these muffins is from an online recipe database⁴³, and was chosen for its potential to be modified. To enhance the nutritional value, the following changes were proposed:

1. Replace milk and lemon juice with tea and yogurt (to increase nutrients)
2. Replace whole egg with 2 egg whites (to reduce fat)
3. Replace applesauce with mashed sweet potatoe (to increase nutrients)
4. Replace Splenda granular with Stevia (replace chemical additive with naturally-sourced sweetener)
5. Pre-mix dry ingredients (to ensure even distribution of flavours and active ingredients)
6. Add berries and walnuts (to increase nutrients)
7. Stir berries into wet/bran mixture before adding dry ingredients (to prevent over-stirring)
8. Sprinkle extra walnuts on top with oats (to increase flavour of nuts by roasting them as muffins bake)

By exchanging ingredients with similar properties (egg whites for egg, specifying wildflower honey over generic), and recognizing which desired ingredients would have little affect on form or texture (berries and nuts), I drew from previous experience to gauge proportions and combinations. I then returned to the Internet for additional suggestions on how to make muffins. I found websites purely focused on baking and grain products, authored by people obsessed with everything that rises in the oven, and finally a comprehensive and explanatory list of tips.

Preparation is key to making muffins. Using three bowls, the baker organizes ingredients into three sets by: mixing the bran with the yogurt and tea, to become soft by absorbing the excess liquid, and to provide an environment for the active cultures in the yogurt to multiply; combining the dry ingredients to ensure even distribution of flavours and active chemical ingredients; and finally, by whisking the wet ingredients to break the bonds of the egg white, infuse it with air, and help lighten the texture of the muffins.

A baker's method for mixing batter is equally important to the texture of muffins. He or she should not add dry ingredients to wet ingredients until after preparing the muffin tins, and once the oven reaches the correct temperature; once the baking powder reacts with water, causing a chemical reaction creating small pockets of air, the baker should divide the batter, and promptly put into the oven, before it deflates. Dry and wet ingredients should be blended using a wooden spoon, just until moistened, as over-stirring aggravates the air pockets in the batter and creates tunnels in the spongy texture of the muffins.

The texture of muffins should be moist and spongy, with small homogenous bubbles. The berries and walnuts are best when evenly distributed, to prevent inconsistent texture and baking time, and to infuse each bite with the key flavour components. If the baker mixed the batter for too short a period, there may be pockets of dry ingredients - which, not having reacted with wet ingredients creates inconsistent texture and flavour. If the baker mixed the batter for too long a time, tunnels may form during baking, as air pockets become joined, and the muffins may become denser and less desirable.



Recipe: Berry Bran Muffins

Base Recipe

1 1/2 cups wheat bran	1/4 cup flax seed meal
9 ounces skim milk + 1 tablespoon lemon juice	1 teaspoon vanilla extract
1 large egg	1 teaspoon each baking soda and baking powder
3 ounces unsweetened applesauce	1 teaspoon salt
3/4 cup Splenda granular	1/2 teaspoon cinnamon
2 tablespoons honey	1 cup whole wheat flour
	2 tablespoons rolled oats

Directions

1. Preheat oven to 350 degrees.
2. Mix wheat bran, milk, and lemon juice together. Let it sit while preparing the next step.
3. In a separate bowl, beat the egg until fluffy. Then beat in your sweetener of choice, honey, applesauce, ground flax, vanilla extract, baking soda, baking powder, salt, and cinnamon.
4. Add the wet ingredients to the bran mixture. Stir well.
5. Add whole-wheat flour to mixture.
6. Spoon mixture into muffin cups till about 2/3 full. Sprinkle the muffins with rolled oats.
7. Bake for about 20 minutes. Do the toothpick trick!

New Recipe

1 1/2 cups wheat bran	1/4 cup flax seed meal
2/3 cup cold steeped tea	1 teaspoon each vanilla extract, baking soda, baking powder, sea salt
1/2 cup plain natural yogurt	1/2 teaspoon cinnamon
2 large egg whites	1/3 cup wild blueberries
1/3 cup mashed sweet potatoe	1/3 cup cranberries
3/4 cup stevia	1/4 cup + 2 tablespoons walnut pieces
2 tablespoons local honey	1 cup whole wheat flour
	2 tablespoons rolled oats

Directions

1. Preheat oven to 350 degrees.
2. Mix wheat bran, tea, and yogurt together. Let it sit while preparing the next step.
3. In a separate bowl, beat the egg whites until fluffy. Then beat in your sweetener of choice, honey, sweet potatoe, ground flax, and vanilla extract.
4. In a third bowl, combine whole wheat flour, baking soda, baking powder, salt, and cinnamon.
5. Add the wet ingredients to the bran mixture. Stir.
6. Add the berries and 1/4 cup of the walnuts. Stir well.
7. Add whole wheat flour mixture and stir only until moistened.
8. Spoon the mixture into muffin cups till about 2/3 full. Sprinkle the muffins with rolled oats and remaining walnuts.
9. Bake for about 20 minutes. Do the toothpick trick!

Fig. 3.4 *Opposite*, berry bran muffin

Commerce



Tilapia with Cilantro and Lime

Food companies are under pressure to make each of their products more appealing than the other 46,000 items now sold at the average grocery store.⁴⁴ Restricted by labelling guidelines, they strategically cater recipes and market their goods to the growing majority – those wanting cheap, fast, and reasonably healthy food. Seeking to sway consumers with bold dietary claims and convenient packing, some companies border on false advertising, though others help the consumer find acceptable alternatives to more costly or unhealthy foods. Keeping such products on hand, the chef – rationalizing that what the foods lack in authenticity, they make up for in expediency – may create recipes more spontaneously, and in less time. By matching the mode of preparation to the key attributes of the food being prepared, the chef multiplies its value, and creates a recipe that facilitates cooking and healthy eating.

TRADER JOE'S
WHERE YOU CAN STILL GET
GREAT FOOD THAT'S GOOD
FOR YOU, WITHOUT SPENDING
YOUR WHOLE
PAYCHECK! yikes!

4.1 Grocery Shopping

Grocery shopping can be therapeutic. I stroll through the aisles, browsing, brainstorming, and examining packages' dietary claims (only allowed in Canada following the 2002 revision to the Food and Drugs Act)⁴⁵ that peak my interest.

That was how I first discovered Tilapia in the frozen fish aisle at Trader Joe's, in Boston. Vacuum-sealed in clear plastic, the fish had no other packaging save a nutrition label and price tag on the back. The price per weight was low compared to the fish I usually bought (sole or salmon), and according to the label, tilapia was also lower in fat. I tried it that night for dinner. Tilapia, I concluded, is not only extremely lean, but has a pleasant texture that is firm yet flaky. Its flavour is mild – almost bland – but works well with a variety of other flavours. Though best eaten fresh, Tilapia freezes well and thaws quickly – making it convenient to have on hand in the freezer for a quick, healthy dinner.




Fig. 4.2. Frozen food aisle in Trader Joes, Boston.

Fig. 4.1. *Opposite*, sign outside of Trader Joes, Boston.

AT&T 3G 1:18 AM 39%

Back **Corn**

What to Look For
 Check that the husks (the leaves) are bright green, and a bit damp. If the corn is old and losing moisture, the leaves will be wilting and yellowing. 
 The stem where the corn cob was cut, should be clean and dry. Fresh corn will have plump kernels, that are tightly packed together.

Storage Tips
 The husk helps the kernels to retain moisture, so keep it attached until use. Store in a plastic bag in the refrigerator for up to three days, but is best eaten on the day of purchase.

Fruits Vegetables About

AT&T 3G 1:19 AM 39%

Back **Olive**

kept in their original liquid and placed into a sealed container.

Nutritional Facts
 Olive juice is a great source of antioxidants, and the olive itself is an excellent source of iron and copper. There is a significant amount of sodium, however.

Fun Facts

- Olives are prescribed to patients to help keep blood cholesterol levels under control.
- The only difference between a green olive and a black olive is how ripe it is.
- The first recorded olive tree is dated to 1700BC!

Fruits Vegetables About

4.2 Knowing What to Buy

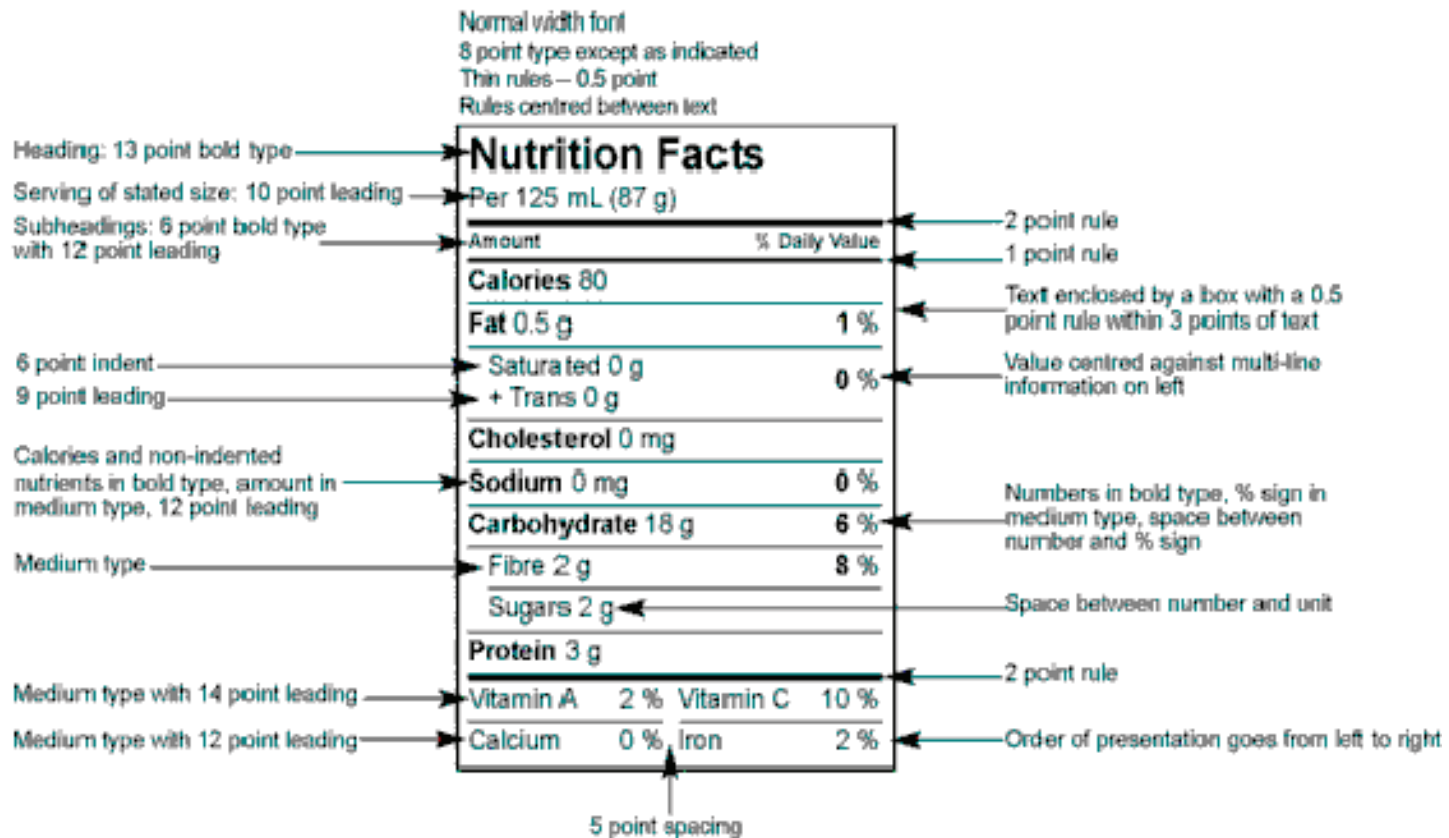
The renewed interest in farmer's markets and conscientious grocery shopping has created a new market for software developers. To aid tech-savvy consumers, smart phone applications now provide location-specific, up-to-date information about where, when, and how to find the best local food in season.

Many online food guides and databases can be sorted by food name, category, or month, and provide cooking suggestions for both the novice and advanced chef. With regional variations, however, and the overload of information, most applications have only limited coverage of regions of the United States or Europe – wherever the software was first developed. I have yet to find a local produce/producer guide for Canada, so I use food guides for locations with seasonal schedules comparable to those of southern Ontario: North Eastern United States and Britain.

The most useful application for buying fruits and vegetables is Produce Pal. It provides nutritional values, tips for finding ripe fruits and vegetables, and recommendations on keeping them fresh – characteristics independent of location. Though physical signs may be more practical for the grocery store shopper looking for help choosing prime produce, they are rare; publicized recommendations may actually decrease store sales as most fruits and vegetables sold at large commercial outlets have been shipped over great distances and kept unripe or are damaged in transit. Produce Pal may therefore offer comfort and insight to inexperienced shoppers. Market-goers, on the other hand, may prefer face-to-face interactions with farmers, and have little use for a portable food guide: farmer's market vendors are proud of their produce, and most oblige any customer looking for guidance and give samples with their explanations of their produce. Their recommendations may be biased towards their own produce, but their genuine love of food is transmitted through the care taken to pass down knowledge.

Fig. 4.3. *Opposite, left*, Produce Pal gives advice on how to pick the best produce.

Fig. 4.4. *Opposite, right*, Produce Pal also provides information about the nutritional value.



4.3 Packaging

Nutrition labels became mandatory on most pre-packaged foods in the U.S. in 1990, but in Canada only in 2005 (following a 2003 ruling).^{46,47} Enforced in Canada by the Canadian Food Inspection Agency, the labelling regulations are:

*...designed to provide a system for conveying information about the nutrient content of food in a standardized format, which allows for comparison among foods at the point of purchase. [The] clear, uniform information should support consumers . . . by permit[ting] dietary management of chronic diseases of public health significance, and [by] help[ing] them make food choices that may reduce the risk of developing chronic diseases.*⁴⁸

Nutritional labels are now essentially same in both the United States and Canada. Strict guidelines govern label contents, placement, size and font, and specify if additional ingredient information must be listed on the package. Neither country mandates labels for most raw, unprocessed and unwrapped produce, meat and fish, but encourages companies to give nutritional information when packaging allows.^{49,50} Even if a food's composition is unchanged during processing or packaging, nutrition labels may be helpful to those wishing to learn about new foods. They are easy to find and read – even relative to researching with an iPhone application – and they often inspire experimentation with new foods shown to be healthy.

Though nutrition labels are informative and unbiased, many consumers don't bother reading beyond the claims made on the front of the package. The Canadian Food Inspection Agency has attempted to regulate what claims a package can make, but have left room for cunning marketers to find loopholes that allow companies to sway consumers with misleading

terminology. The term “homemade,” for example, cannot be associated with any “commercially prepared” or brand-named food, and yet the terms ‘homemade style’, ‘home-style’, ‘like homemade’ may be used to describe a food that may contain mixes from commercial or private recipes” – which is easy for any company to establish.⁵¹ The term “fresh” can also be misleading. There are numerous acceptable implications of the word: “fresh” may mean the food is unprocessed, or may mean it was processed (cooked or baked) that day; it may mean no preservatives were added to the food, though it was artificially preserved in chemically-controlled refrigerated environments; or “fresh” may mean the food has a cooling taste, crisp texture, brightly coloured exterior or vibrant scent. The CFIA has thus sided with marketers, allowing the term to be used in all scenarios, and leaving interpretation to the consumer.⁵²

At the grocery store, therefore, it is worthwhile to investigate the claims made on packages. Tag words can be misleading: “Low Fat” foods are often still high in salt and/or sugar, “Reduced Sodium” means only less sodium than the original, and foods labelled “Natural” often fail to identify the “natural flavours” and “natural colours” that were added to the product. Also, by analyzing nutritional claims, and knowing the loopholes food companies exploit, the consumer can learn to cook – and improve on – store-bought items.

Fig. 4.5. *Opposite*, diagram of graphic standards for nutrition labels

Fig. 4.6. *Following page*, photos of ironic product labels.







4.4 Increasing Profitability

To get maximum value out of the ingredients chosen, the chef should select cooking and preparation techniques sympathetic to the dish. If decadence is desired, for example, the appropriate cooking techniques likely add fat, sodium, and/or calories. A nutritious dish, however, should not be compromised, and may be cooked with only water. A recipe passed down from ancestors may, out of respect, be prepared with traditional, though more labour-intensive methods, whereas a microwave dinner deserves little more effort than pressing buttons to set the cook time.

The frozen tilapia was purchased partly because of its nutritional value. The fish was therefore poached in water in a non-stick ceramic pan. (While the safety of the Polytetrafluoroethylene (PTFE/Teflon) coating on traditional non-stick pans is under debate, new ceramic coatings are PFOA and PTFE free, and equally effective.)⁵³ The salt and sugar in the cilantro lime sauce was replaced with sodium-free potassium salt and Splenda® – a calorie-free sugar substitute. Tilapia also stores well, cooks quickly, and is convenient to have on hand in case of emergency. The recipe was crafted using ingredients commonly found in the kitchen, to eliminate the need to grocery shop. The sauce recipe was simplified to ensure that it could be made while the fish was steaming.



Fig. 4.7. *Opposite*, poaching tilapia, testing if cooked and flakey

Fig. 4.8. *Above*, non-stick ceramic pans are the new trend in healthy cooking tool



Recipe: Tilapia with Cilantro and Lime

4 frozen tilapia fillets
Lime juice from 1 small lime
1 packet of stevia
2 tablespoons chopped fresh cilantro
A dash of Potassium salt

Directions

1. Remove tilapia from packages
2. Heat non-stick frying pan
3. Add a few tablespoons of water to the pan, along with frozen fillets. Do not overlap fillets if possible.
4. Cover pan with lid and adjust heat to medium.
5. Meanwhile, juice lime into small bowl.
6. Chop cilantro and add to bowl
7. Add stevia and potassium salt and blend with a fork.
8. When fish becomes flaky, turn off heat. Drain any remaining water from the pan, and place back on stove. This helps evaporate any excess liquid that would dilute the sauce.
9. When ready to serve, place tilapia on plate, flake the top slightly with a fork, and drizzle with sauce. Flaking the fish slightly allows the sauce - which is very thin - to be absorbed into the fish more, and pool on the plate less.

Fig. 4.9. *Opposite*, tilapia with cilantro and lime..

Setting



North House Salad

Foods appeal to the sense of sight before they appeal to the sense of taste. Chefs select and curate foods to enhance appetite. The chef may add to the sensual impact of the meal by coordinating foods with the dining space – using it as a blank canvas, a manifestation of the recipe’s design philosophy, or even a reminder of where the ingredients came from. By combining contrasting or analogous colours and textures, chefs enhance the unique characteristics of foods; by composing a plate, they objectify foods, and inspire an appreciation beyond nutritional value and taste. Finally, chefs can turn each forkful into a curiosity by selecting ingredients of visual interest.

5.1 The Country and the Region

I first became involved with North House in the summer of 2008. The University of Waterloo Architecture and Engineering departments joined forces with Ryerson and Simon Fraser Universities to enter a house in the 2009 Solar Decathlon. Based on student and faculty collaboration, this is a bi-annual competition to design and erect solar-powered houses on the National Mall in Washington, D.C. In true decathlon fashion, the competition featured ten main events, including Architecture, Engineering, Power Production, Appliances, and even Entertainment. One of my roles in our project was to create the menus for the two dining events on October 9th and 12th, cook the dishes and help serve them at our house on the Mall – a key component of the Entertainment score, and a popular event amongst competitors.

The meals were to express the North House philosophy through the language of cuisine, by exemplifying a healthy northern lifestyle and celebrating Canadian culture. The North House publication had already outlined that “The use of the landscape and its ability to produce food will complement the holistic solar concept,” defined as “an approach to making and living with buildings that incorporates the energy and benefits of the sun in all ways possible”. It also mandated that “...seasonal cycles and life cycles will be fundamental to . . . the choices of materials and components.” I set out to craft a range of seasonal, locally sourced dishes which featured some of Canada’s most unique and noteworthy foods.

To be true to the North House philosophy, the ingredients needed to be local in Canada (specifically southern Ontario, where the house was primarily designed), as well as the Washington D.C. area, where I would be purchasing most of the ingredients for the competition meals. My first step was to compare seasonal schedules from the two locations, and base the dishes on the produce available in both southern Ontario and Washington, D.C. Salad ingredients were then chosen to celebrate the season and draw attention to commonalities of two regions and countries.

The chart on the following page illustrates the ingredient selection process, and serves as an example of how recipes may be generated by cross-referencing availability in multiple locations.

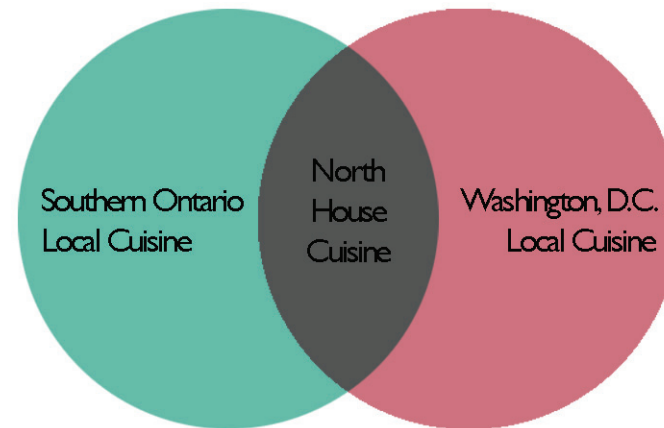
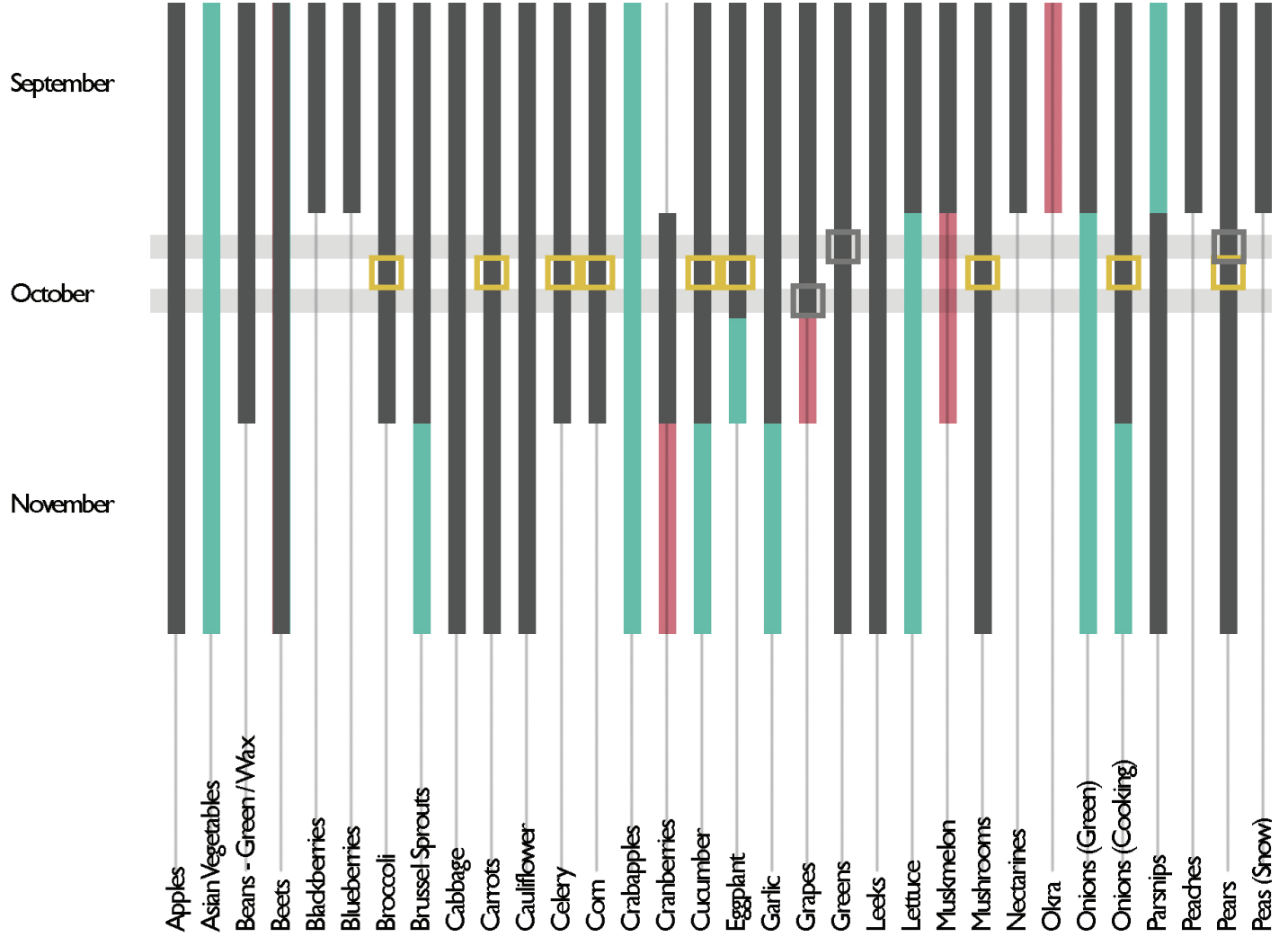


Fig. 5.1. North House Cuisine is based on seasonal foods found in common between the Southern Ontario and the Washington D.C. regions.

Cross-referencing Seasonal Schedules



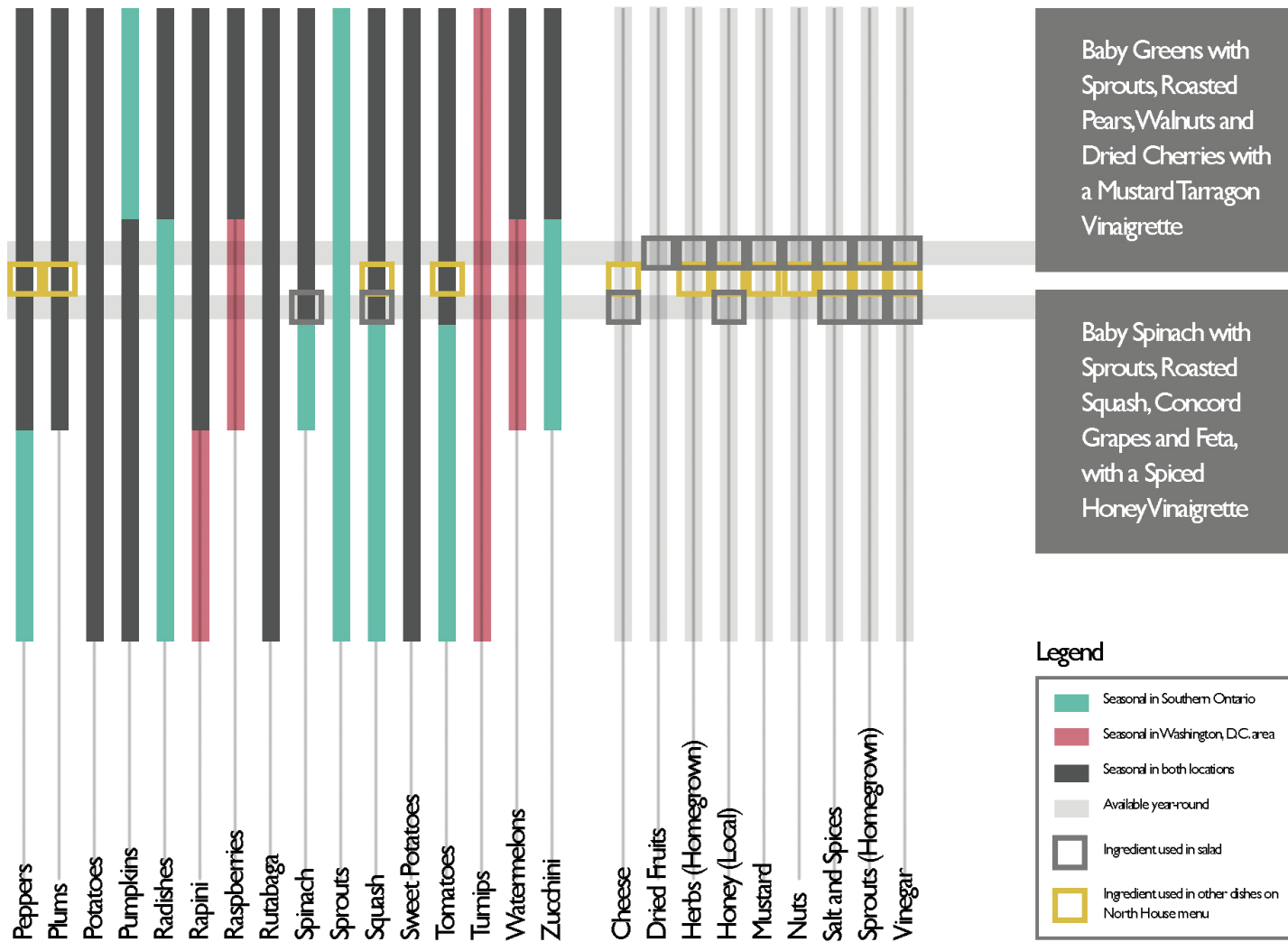


Fig. 5.2 - This chart shows how salad ingredients were chosen based on the overlapping schedules of Southern Ontario and Washington D.C., in Fall, at the time of the Solar Decathlon competition.



5.2 The Room

To bring out the best in a food, the chef may design his or her dishes to play off the key attributes of the dining environment. Finishes, room layout, and views affect a diner's experience. Through juxtapositions, colours and textures become more vivid; through congruencies, connections are drawn between food and the environment.

The North House salads, for example, were served onsite – an airy, open interior area of light wood and shades of white, with little texture save the undulating ceiling, shading device, and expansive views of the exterior spaces. The white Eames table served as a blank canvas where the salads burst with colour and texture. By drawing attention to similar textures and colours seen in the gardens, the leafy green vegetables brought the outside in.

In other situations, a chef may transform the notion of a dining space by minimizing the affect of finishes and views: without such visual distractions, the diner can more easily focus on his or her remaining, more intensified senses. Nuances become more noticeable, increasing the chances of a food triggering personal connections. Candlelight dinners, for example, keep the visual focus between the table and the faces of those sitting around it.

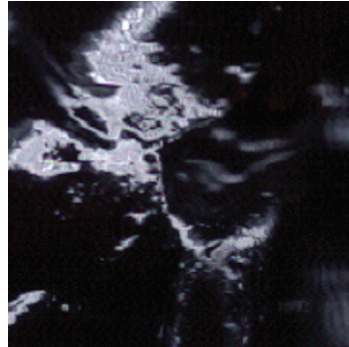
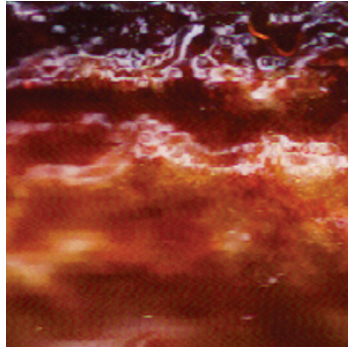
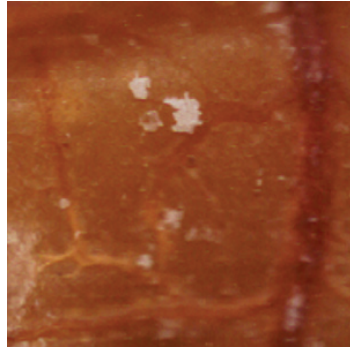
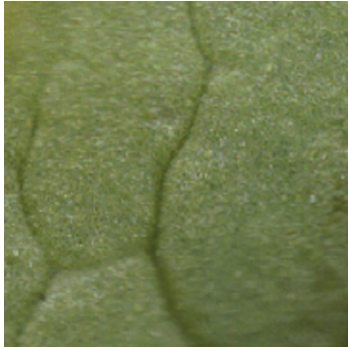
In an extreme case, at the new chain of restaurants called O'Noir, the facility of sight is completely removed from the meal experience. After choosing dishes from the menu, (or choosing to be surprised by the chef's choice), blind waiters lead guests through a series of doors and corridors into a lightless dining room. From that point, taste, texture, sound and smell guide the diners through the meal – the saltiness of smoked salmon, the crispness of fresh arugula, the utensils touching the plate, and the symphony of aromas that fill the room. Unprejudiced, the diner may critique the foods on the quality of ingredients, flavour combinations, and mouth feel. As memories arise, the "space" where the meal is enjoyed fluctuates between mental images of past experiences, and the awareness of ut-

ter darkness. As described best by Thalassa Cruso, in *To Everything There is a Season*: "the sense of smell can be extraordinarily evocative, bringing back pictures as sharp as photographs of scenes that had left the conscious mind."



Fig. 5.3. *Opposite*, the dining area at North House, on the National Mall.

Fig. 5.4. *Above*, the herb garden integrated into the landscape of North House.



5.3 The Plate

A plateful of food is a perishable design – something to admire, and then eat. By combining foods with similar or juxtaposing characteristics, the chef may draw attention to nuances in texture, colour or flavour. By arranging the plate, the chef may also inform the diner about how to appreciate the meal.

Such an arrangement also shows the diner how the meal was cooked and how it should be eaten. If the chef pours gravy over a piece of beef, for example, it not only softens the appearance of the meat in the composition, but also implies that its drippings were preserved during preparation and should be eaten concurrently. If the chef serves gravy in a bowl on the side, shreds the beef, and places it in a bun, the diner may dip the sandwich in gravy, or consider it an optional condiment.

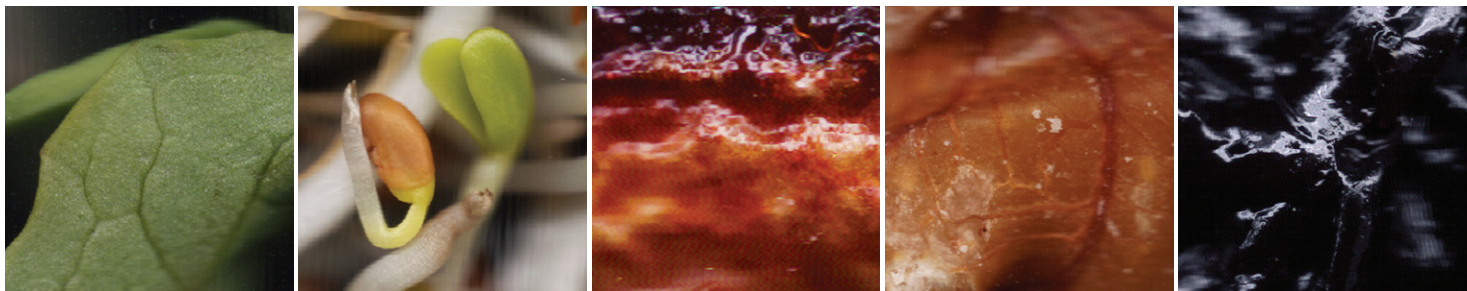
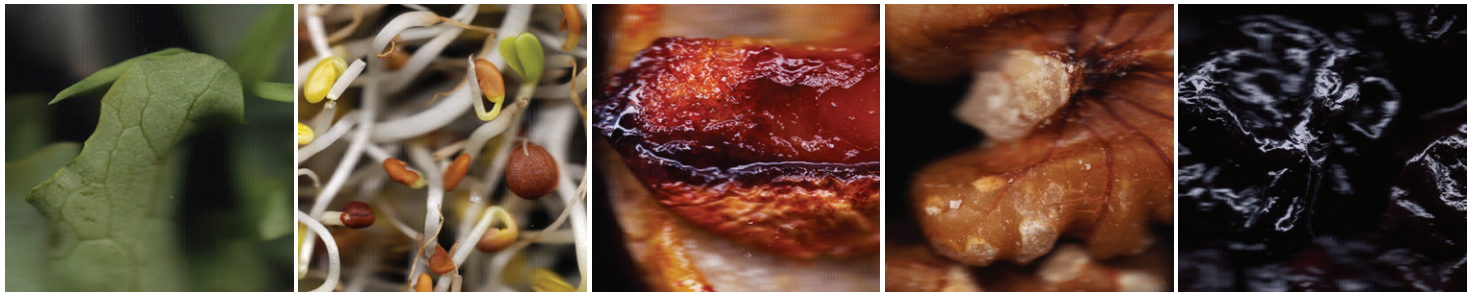
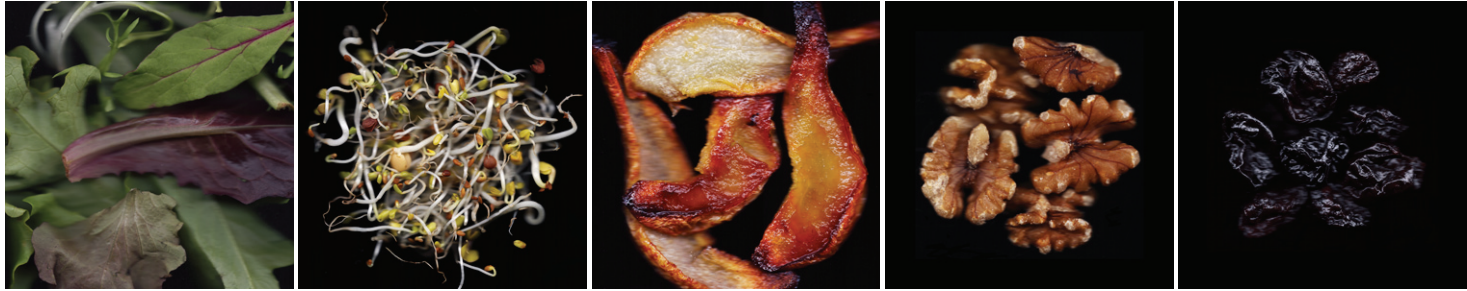
Fresh salads are arrangements of foods in their raw form. The chef simply prepares ingredients, layers them (with the exception of tossed salads) not in order of consumption, but for presentation, and typically serves the salad in a simple dish. The largest, most plentiful ingredients have greatest coverage and are generally best suited for the bottom; the smallest, most sparse ingredients should be on top, to prevent them from falling through to the bottom, and the ingredients in between range, starting with greatest size and lowest permeability. This allows best vantage: the diner can see each ingredient through the layers above. By adjusting layer order, the chef may improve the juxtaposition of textures and colours; ingredients appear more vivid and distinct, heightening the experience of the salad.

In the North House, I served the salads in shallow white bowls, in keeping with the white table and minimal finishes. Leafy greens served as the base layer onto which I layered sprouts (arranged as a dense mat), large ingredients (roasted squash or pears), fruit and nuts, crumbled cheese and dried fruit, and finally dressing. Each ingredient is visible in the composition, and enhanced by use of complimentary colours and large variations in texture.



Fig. 5.5. *Opposite*, ingredients from the October 9th salad illustrate the use of ingredients that are analogous and juxtaposed. From left to right: the veining in the leafy greens is reminiscent of the veins found on the skin of the walnuts, though their colours are opposites. The colour of the roasted pears, however, is similar to that of the walnuts, though one's skin is smooth dull skin, and the other's wrinkled and glossy. The dried cherries have skin similar in texture to the pears, but nearly black in colour.

Fig. 5.6. *Above*, the white bowl used to serve salad in the North House.



5.4 The Forkful

Each salad ingredient is intriguing and beautiful in its own way, and each forkful a composition worth attention. By studying their texture, colour, and form, cooks may better understand what makes each food unique. A food's size, density, hue, vibrancy, and reflectance influences the design of the entire meal, and though not critical to the flavours of a dish, deserves considerations as the last image – a close-up – before eating the food.

Mixed Greens: Leaf size, hue, shape and texture vary with plant species, ranging from curly deep purple of baby red lettuce, to smooth bright green of baby romaine, to coral-like white frisée. Contrasting veining and edge style create interest, and collaged, mixed greens provide a beautiful salad base that compliments the other ingredients.

Broccoli and Onions Sprouts: The pearly, semi-translucent shoots intermingle and the sprouts tangle at the bulbous, sharply turned heads. Mixed sprout varieties, at slightly different stages of development, vary in colour – from lime green, to soft yellow, to chestnut brown – depending on whether the seed casing has been shed, or the leaves have begun to emerge. Sprouts can be seen as an addition to the mixed greens base, forming a nest on which to rest following ingredients.

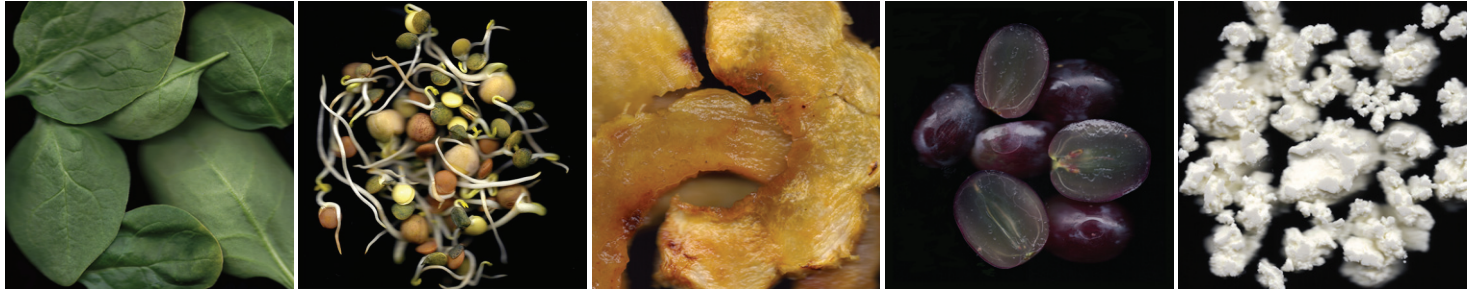
Roasted Pears: Juicy white flesh is reduced in size and moisture content until it turns a golden brown, and leather-like, with glossy, crisp peel and sticky caramel where the pear slices made contact with the roasting pan. Slices are similar in size and shape, with colour variations based on location and orientation during roasting. Because of their size, pear slices are best layered beneath finer ingredients.

Walnuts: These brown, monochromatic nuts emerge from their shell moulds, and are often compared to a brain. Branch-like veins lead from

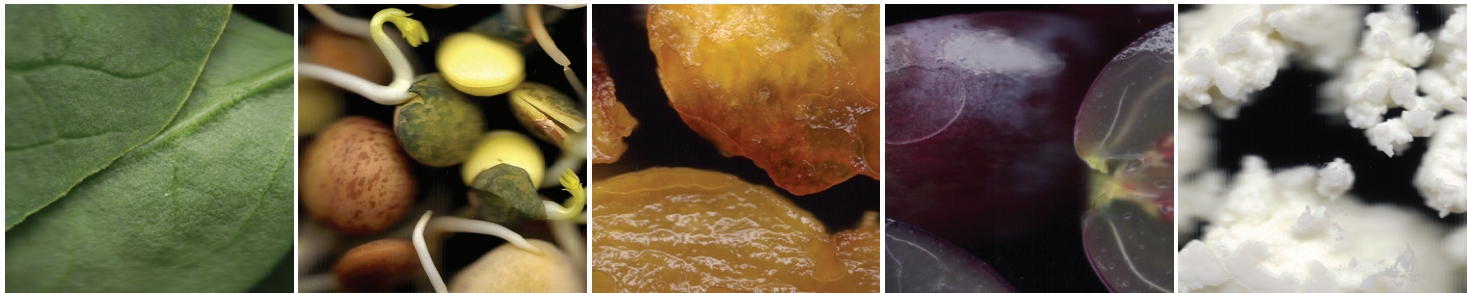
the joint between the two lobes through the semi-translucent skin, over light-coloured meat inside.

Dried Cherries: Dark, dense, glossy and wrinkled, the skin of the dried cherries collapses on itself as moisture is removed from the flesh – leaving little trace of the original form save the ring which previously connected to the stem. The physical and visual weight of the cherries determines their location on top of all other ingredients; otherwise, they sink to the bottom of the dish, and get lost in the shadows between lettuce leaves.

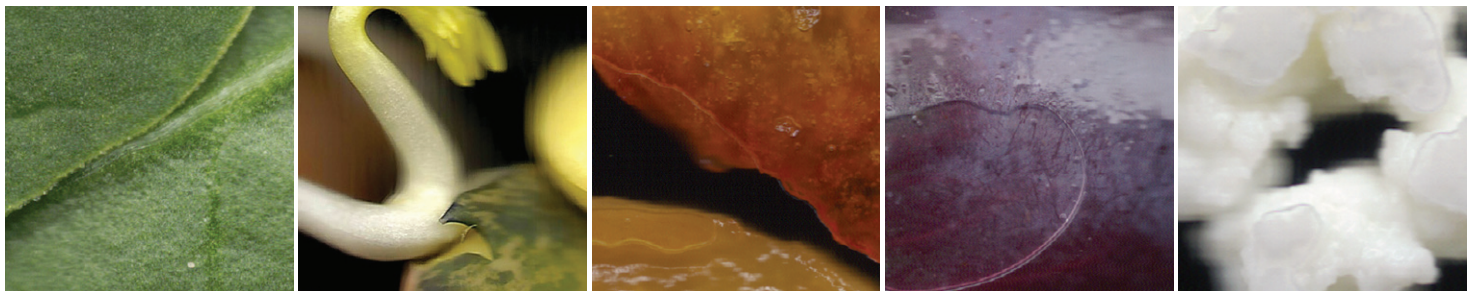
Fig. 5.7. *Opposite*, ingredients from the October 9th salad are seen in increasing detail. From left to right: mixed greens, broccoli and onion sprouts, roasted pears, walnuts, and dried cherries.



50%



200%



500%

Baby Spinach: Smaller and more tender than full-grown spinach, the leaves are homogeneously green, with pronounced veins and subtle granular texture. Leaves are egg-shaped, generally flat, with finely corrugated edges.

Mixed Bean and Lentil Sprouts: Shoots are similar size to those of broccoli and onion sprouts, though the seeds are larger and more robust. Casings are modulated in colour - which vary according to plant variety - and range from pale yellow, to auburn, to khaki green. Though the shoot heads break through the seed casing, they are tender, with delicate leaves starting to develop.

Roasted Acorn Squash: Once opaque, and homogeneously bright orange in colour, the roasted squash is turned semi-translucent, golden brown, and glossy when caramelized in the oven. The cook creates scalloped outer edges by cutting the acorn squash crosswise through its ribbed exterior. Squash slices are the largest of the salad ingredients, and when layered, are best with finer ingredients layered on top.

Grapes: Deep, smoky purple on the exterior, with an eerie, translucent interior, grapes glisten – halved or whole – and provide a punch of colour. Seeds (or the underdeveloped, soft seeds of “seedless” grapes) appear as ghosts within the jelly-like fruit, and the heterogeneous, chalky skin shows how and where the grapes were touched. Small grapes may be kept whole, though large grapes are halved so as not to overwhelm any bite of salad with grape flavour.

Goat Feta: The soft, cloud-like curds of feta are loosely bonded together, and have a fine texture when crumbled on top of a salad. Feta has higher water content and glistens more than most other cheeses. Left uncovered, the moisture evaporates and it becomes dull. Pure and white, it provides a sharp contrast to more variegated and colourful fruit or vegetable ingredients.

Fig. 5.8. *Opposite*, ingredients from the October 12th salad are seen in increasing detail. From left to right: baby spinach, mixed bean and lentil sprouts, roasted acorn squash, grape halves, and goat feta.



Recipes: North House Salad, October 9th, 2010

Baby salad greens - freshly snipped, rinsed in cool water, patted dry with clean kitchen towel.

Broccoli sprouts - ideally grown in North House.

Local honey - liquid honey (wildflower, buckwheat, etc.) from local hives supports local industry and helps fight seasonal allergies.

Bosc pears - cored, sliced, laid on cookie sheet, drizzled with honey, roasted in 350F oven until tender. Allow to cool on parchment or wax paper.

Walnuts - halves, lightly toasted.

Dried cherries - separate cherries if stuck together.

Dressing

Grainy mustard

Chopped tarragon

Local (Buckwheat) honey

Cider vinegar

Directions

1. Mix together dressing ingredients - quantities to taste. Refrigerate.
2. Layer salad ingredients in bowl in following order: baby greens, sprouts, pears, walnuts, dried cherries.
3. Drizzle salad with dressing when ready to serve.

Fig. 5.9. *Opposite*, the October 9th North House salad



Recipes: North House Salad, October 12th, 2010

Baby spinach - freshly snipped, washed, patted dry.

Assorted sprouts - mixture of bean, chickpea and lentil, homegrown.

Honey - locally sourced.

Cinnamon - ground.

Acorn squash - sliced, laid on cookie sheet, drizzled with honey and dusted with cinnamon, roasted in 350F oven until tender - when peels are easily removed from slices. Allow to cool on parchment or wax paper.

Concord grapes - whole, washed, patted dry, destemmed.

Goat feta – crumbled

Dressing

Local honey

Mustard

Cumin

Grapeseed oil

Shallots

Champagne vinegar

Directions

1. Mix together dressing ingredients - quantities to taste. Refrigerate.
2. Layer salad ingredients in bowl in following order: spinach, sprouts, squash, grapes, feta.
3. Drizzle salad with dressing when ready to serve.

Fig. 5.10. *Opposite*, the October 12th North House salad

Fig. 5.11. *Following page, left*, view of the North House dining competition, onsite on the National Mall.

Fig. 5.12. *Following page, right*, the menus from the dining competitions.



Team Ontario/BC
Dining Event Menu for Friday, October 9, 2009

Appetizer

An assortment of whole grain crostini with Canadian preserves and cheese:
Caramelized onion confit with aged cheddar
Sundried tomatoe tapenade with unripened goats cheese
Red pepper and peach jelly with brie
Grape curd with shaved asiago
Pear jam with crumbled blue cheese

Beverage: Mulled cherry cocktails

Soup

Maple-roasted squash soup

Salad

Baby greens with sprouts, honey-roasted pears, toasted walnuts, dried cherries
and a tarragon honey mustard vinaigrette

Beverage: White grape Spritzers

Main

Onion and herb stuffed pork tenderloin, or ricotta layered ratatouille tower,
with sautéed mushrooms and garlic polenta

Dessert

Spiced plum crisp with white chocolate and honey yogurt cream

Beverage: Cinnamon espresso floats

Team Ontario/BC
Dining Event Menu for Monday, October 12, 2009

Appetizer

Crudités with assorted dips:
Spicy peanut dip
Sundried tomatoe and parmesan dip
Herb and garlic yogurt dip

Beverage: Minted sweet iced tea

Soup

Roasted red pepper & charred sweet corn soup
with pumpernickel croutons

Salad

Baby spinach with sprouts, roasted acorn squash, concord grapes, goat feta
with a spiced honey vinaigrette

Beverage: Mulled cherry cocktails

Main

Maple and balsamic-glazed cedar plank salmon or mushrooms,
with a triple onion quinoa pilaf, garnished with grape tomatoes

Dessert

Gingered pear and ricotta strudel
with raspberries and dark chocolate shavings

Beverage: Cinnamon espresso floats

Lasting Impressions



Mulled Pears with Goat Cheese Mousse

Foods may be more gratifying to the soul than to the senses or purse. Positive associations to family and friends, places visited, or local community add another layer of enjoyment to food. Triggers, such as the sight, sound, smell, texture or taste of a recipe or ingredient, if anticipated by the chef, may provide opportunity to charm diners with even the most banal foods.

The lasting impression of an experience may also influence a chef's sense of taste: affiliations and lessons learned create biases. These may develop into a chef's penchant for a type of cuisine, or repeated use of favourite ingredients, recipe templates, or food producers.

“. . . Many years had elapsed during which nothing of Combray, save what was comprised in the theatre and the drama of my going to bed there, had any existence for me, when one day in winter, as I came home, my mother, seeing that I was cold, offered me some tea, a thing I did not ordinarily take. I declined at first, and then, for no particular reason, changed my mind. She sent out for one of those short, plump little cakes called ‘petites madeleines,’ which look as though they had been moulded in the fluted scallop of a pilgrim’s shell. And soon, mechanically, weary after a dull day with the prospect of a depressing morrow, I raised to my lips a spoonful of the tea in which I had soaked a morsel of the cake. No sooner had the warm liquid, and the crumbs with it, touched my palate than a shudder ran through my whole body, and I stopped, intent upon the extraordinary changes that were taking place. An exquisite pleasure had invaded my senses, but individual, detached, with no suggestion of its origin. And at once the vicissitudes of life had become indifferent to me, its disasters innocuous, its brevity illusory—this new sensation having had on me the effect which love has of filling me with a precious essence; or rather this essence was not in me, it was myself. I had ceased now to feel mediocre, accidental, mortal. Whence could it have come to me, this all-powerful joy? I was conscious that it was connected with the taste of tea and cake, but that it infinitely transcended those savours, could not, indeed, be of the same nature as theirs. Whence did it come? What did it signify? How could I seize upon and define it? . . .

. . . And suddenly the memory returns. The taste was that of the little crumb of madeleine which on Sunday mornings at Combray (because on those mornings I did not go out before church-time), when I went to say good day to her in her bedroom, my aunt Léonie used to give me, dipping it first in her own cup of real or of lime-flower tea. The sight of the little madeleine had recalled nothing to my mind before I tasted it; perhaps because I had so often seen such things in the interval, without tasting them, on the trays in pastry-cooks’ windows, that their image had dissociated itself from those Combray days to take its place among others more recent; perhaps because of those memories, so long abandoned and put out of

mind, nothing now survived, everything was scattered; the forms of things, including that of the little scallop-shell of pastry, so richly sensual under its severe, religious folds, were either obliterated or had been so long dormant as to have lost the power of expansion which would have allowed them to resume their place in my consciousness. But when from a long-distant past nothing subsists, after the people are dead, after the things are broken and scattered, still, alone, more fragile, but with more vitality, more unsubstantial, more persistent, more faithful, the smell and taste of things remain poised a long time, like souls, ready to remind us, waiting and hoping for their moment, amid the ruins of all the rest; and bear unfaltering, in the tiny and almost imperceptible drop of their essence, the vast structure of recollection.

And once I had recognized the taste of the crumb of madeleine soaked in her decoction of lime-flowers which my aunt used to give me (although I did not yet know and must long postpone the discovery of why this memory made me so happy) immediately the old grey house upon the street, where her room was, rose up like the scenery of a theatre to attach itself to the little pavilion, opening on to the garden, which had been built out behind it for my parents (the isolated panel which until that moment had been all that I could see); and with the house the town, from morning to night and in all weathers, the Square where I was sent before luncheon, the streets along which I used to run errands, the country roads we took when it was fine. And just as the Japanese amuse themselves by filling a porcelain bowl with water and steeping in it little crumbs of paper which until then are without character or form, but, the moment they become wet, stretch themselves and bend, take on colour and distinctive shape, become flowers or houses or people, permanent and recognisable, so in that moment all the flowers in our garden and in M. Swann’s park, and the water-lilies on the Vivonne and the good folk of the village and their little dwellings and the parish church and the whole of Combray and of its surroundings, taking their proper shapes and growing solid, sprang into being, town and gardens alike, from my cup of tea. . . .”

from Marcel Proust’s Remembrance of Things Past , Swann’s Way: Overture

6.1 Home

*“Leftovers in their less visible form are called memories. Stored in the refrigerator of the mind and the cupboard of the heart.”*⁵⁴

- Thomas Fuller

Memories may be unique and personal, or shared; they may be the collective of a community, or the product of an era in history. Out of those, memories of pleasurable experiences with family and friends, as well as the mental postcards kept as souvenirs of home, have a particular power to sway personal taste and evoke feelings of comfort, familiarity, and belonging. If triggered, such memories may infuse deeper meaning into similar – but otherwise ordinary – experiences. For example, while I moved away from my birthplace, Niagara-on-the-Lake, over 10 years ago, I still find my mind drawn back to that place, often by foods I learned to love at home – the permutations of contrasting cultural heritages, a rich agricultural history, and a developing tourism industry.

The recent explosion of the Niagara wine industry, however, combined with increases in property values and taxes, have forced many fruit farmers to focus exclusively on grape farming in order to make a profit. Fruit farming is now divided between the largest, most industrialized farms that can supply grocery store chains, and the small hobby farms that sell to locals.

The mid-sized farms lost the market for their fruit when the local cannery closed. With decreased demand, and the shift to offshore fruit processing, Niagara’s (and Ontario’s) last canning factory closed its doors on June 27, 2008, after 112 years of operation in the Niagara Peninsula. The Del Monte fruit cannery in St. David’s, formerly under the Kraft Foods umbrella, was bought out in 2006 by CanGro – a company formed by two U.S.-based corporations, Sun Capital and EG Capital Group. The factory was not profitable enough and closed, putting 150 out of work. Though Niagara’s “prime” farmland is designated in the top 5% of all land

in Canada, and Niagara peaches are among the best in the world, Canadians will now be eating canned peaches grown and processed in China. The estimated \$1 million dollars extra annual profit dissuaded CanGro from helping save Niagara’s fruit industry.

That said, when I remember Niagara, I still picture the farms when business was booming. The foods I’m most attached to came from those farms, whether incorporated into a Mennonite dish – like my Oma’s peach perogies – or into a traditional fruit crisp – like my Grandma’s canned pears.



Fig. 6.1. Peaches, ripening in the sun, on a tree in Niagara.



6.2 A Loved One

It was a cool, grey day in early October. The air was heavy with moisture; it had rained the night before. The ground was dappled with pools of water, some shallow, some much deeper than they appeared. I tramped after my grandmother as she set off for the vineyards. I was 5 years old and was excited to help pick grapes.

As she worked her way down the rows of Cabernet Sauvignon, my interest waned, and I found myself more interested in grape leaves than in the grapes themselves. Their veins were so distinct, so numerous, and made such wonderful patterns when stamped into the soft moist earth. I began layering leaves one on another, like paper mache, curling the edges to make a sort of piecrust. I filled it with the sloppiest mud I could find and jiggled it to even out the top – as I had seen my grandmother do the day before when making a quiche. Expectantly, I held up the pie, offering my grandmother a taste. She declined and I went back to making leaf prints in the mud.

As I grew older, my grandmother let me help her in the kitchen. We made pickles and relish, jam and juice concentrate, and canned peaches, plums and pears. The greatest lesson I learned was that food should not be wasted or taken for granted, but preserved to enjoy later.

A few years ago, when the cannery closed in St. David's - the last canning facility this side of the Rockies - my grandmother was devastated. She had no place to take her pears and they were left hanging on the trees in the orchard, eventually dropping to the ground. Overwhelmed by the waste, she gathered what was left of the pears, and went on a weeklong canning spree. She made batch after batch of pears, filling the shelves of her fruit cellar.

For Christmas that year, my grandmother gave each of her relatives a jar of canned pears - a memento of Niagara's fruit farming industry now past its prime. I haven't eaten the pears, however: I'm saving them. Some day when I miss the "old days" in Niagara, when I miss my grandmother and the afternoons spent in her kitchen, I'll open the jar and bring those experiences back to life.



Fig. 6.2. *Opposite*, rows upon rows of grapes on my grandparents' vineyard, in Niagara-on-the-Lake.

Fig. 6.3. *Above*, the last jar of pears given to me by my grandmother.



6.3 An Acquaintance

It was a gloriously warm afternoon in late September that, save the tiredness of the summer sun, could have been mistaken for an evening in mid-June. Golden hues shone from each waxy leaf in the orchards giving the impression that, like much of Niagara-on-the-Lake, they had been “antiqued.” The apple trees were just starting to be picked, and most trees now stood barren. Pear season was nearly over, but with a hopeful heart and a box of empty mason jars awaiting my return, I’d set out to scavenge the last of this year’s yield.

I drove down Hwy 55 scouring signs for roadside fruit stands and pulled over beside the first one I saw that said “PEARS.” The fruit “stand” was actually a converted shed that had been mounted on wheels, painted purple, and had an awning over one side. A man was standing at a table by the trailer packing apples into bushels, and as I approached, a woman walked over and greeted me with a smile. Her face showed the signs of a life spent outdoors, and her matter-of-factness implied a familiarity with the land that one only acquires after years of working it. Though a farmer for most of her life, she now ran a bed and breakfast out of her home – a change indicative of the evolving economic trends in Niagara.⁵⁵

“So, you’ve got pears?” I inquired, noticing a bushel of them off to one corner of their display.

“This is the last of them!” she replied jubilantly, tilting the bushel so I could see inside. The bushel was only two-thirds full. “Just finished picking these this afternoon . . . Here . . .” she picked out a small yellow pear and handed it to me to try. It was still warm from the sun. Biting into it, the juices escaped the corners of my mouth and dripped off my chin. The pears were perfectly ripe.

“These are sugar pears,” she informed me. “Small, but full of flavour.” I asked to purchase a large basket of them. “They’re a little small for eating, but are great for canning,” she added as she picked through the bushel for the best ones.

“Wonderful! I was planning on poaching these in red wine” – a recipe I’d found in a Canadian Living cookbook that had proved quite successful. It had appealed to me as, in general, I took any opportunity to include wine in my cooking: I feel a sentimental attachment to wine, as having grown up in Niagara, grape farming and wine drinking have been part of my life for as long as I can remember.

“Oh that’ll be lovely! Have you ever tried pears with brandy?” she asked.

I had, had loved them, and still had a few jars left in the fruit cellar. We traded recipes.

That afternoon, I labouriously peeled and cored the pears, poached them in the spiced wine and sealed them in prepared jars. Later, after the jars had cooled, I carried them downstairs to the fruit cellar where they would wait, and improve with age.

Fig. 6.4. *Opposite*, the woman at the road-side fruit stand on Hwy 55.



"In a world gone mad for innovation and change, it's the small pleasures that keep us sane. And in the constellation of small pleasures that salve the mind and nourish the body, what trumps the sheer sensual deliciousness of a well-crafted cheese?"⁵⁷

6.4 A Role Model

“Local memory is a key concept. Those who have no memory of things and of their history don’t care about them and let them waste away until they vanish altogether . . . only in local economy can we fully feel ourselves co-producers, preserving local memory and adding an extra impulse to the network.”⁵⁶

- Carlo Petrini

On April 7, 2009, I drove to Millbank, Ontario, a small town outside of Stratford, to interview the Ruth Klahsen, the woman who opened my eyes to Ontario-made cheeses. I’d heard about her and tasted her cheeses, while working at a Farm-to-Table restaurant in Niagara. Until that time, I was of the common opinion that the best cheeses in the world are made in Europe, with the exception of blue cheese from Quebec, and that buying locally-produced cheese meant sacrificing quality. Ruth’s chevre, however, lodged itself in my memory, and became the goat cheese by which I measure all others.

Ruth Klahsen grew up in a Russian Mennonite family. First inspired by watching her Oma in the kitchen, she enrolled in the Stratford Chef school in 1983, its inaugural year. Ruth trained and worked as a chef in Stratford for the next 20 years, employed as the chef at the Stratford Festival for much of that time. In 2003, however, she decided she needed a change from cooking. She joined forces with Sebastien Montforte, who had 27 years experience in the cheese industry. They had worked together for less than a year when Sebastien, left the business. Shortly after, it was found that all of the cheese they had made that first year had been contaminated by raw milk, and they lost \$160,000 worth of product – out of the \$250,000 Ruth had raised to start up the company.

As she toured me through her factory, Ruth outlined the cheese-making process and the changes she made to prevent contamination. All of Montforte’s milk starts at the farm, and now goes to Guelph to a milk grader for testing before it is transported by truck to the Dairy in Millbank.

The trucks drive through garage-style doors, into a fully enclosed concrete dock, where they are hooked up to hoses that pump the milk through pipes to the HTST pasteurizer (High Temperature, Short Time – 15 seconds at 163°C). The receiving bays for the trucks are carefully designed to protect the milk from outside contaminants. The bays cost \$150,000 to install – a hefty expense for a small, artisanal cheese company. Montforte’s new building in Stratford, therefore, was designed to allow the milk trucks to back up directly to the building, where they are carefully sealed off before pumping. This keeps the contaminants from entering the building, saves the cost of building delivery bays, and requires minimal interior space.

After pasteurization, the milk is processed according to cheese type, and kept at 22°C until divided into specific storerooms. French-style cheeses, for example, are aged in a drying room, whereas the cut/packed/fresh cheeses are preserved in a separate room kept at 4°C. Some specialty cheeses are aged at a precise 10°C, with 90% humidity, and require the air in the room to be completely changed three times per day to ensure that any ammonia does not settle to ground level.

Since Montforte’s founding, fortunes have changed considerably: sales have doubled each year. In 2008, Montforte sold a million dollars worth of cheese with a 15% profit share. Their reputation has spread mostly by word of mouth, and sales are expected to continue to grow – hence the new building in Stratford. Montforte’s business model, however, will see their sales capped at \$5 million to ensure that they stick to their roots as a quality-based, community-driven operation. Ruth would rather expand the company into a school of cheese making, to pass on her passion for cheese, and above all, help keep artisanal traditions alive.

Fig. 6.5. *Opposite, Ruth, standing amongst some of her cheeses.*

Fig. 6.6. *Following page, left, processing milk to make cheese, at the factory in Millbank.*

Fig. 6.7. *Following page, right, Montforte goat cheese.*





Mulled Pears with Goat Cheese Mousse: Five-Spice Mulled Pears

4 lb. Niagara sugar pears	4 slices ginger root
¼ cup lemon juice, if available	tsp. whole cloves
2 cups red wine	tsp. cardamom pods
3 cups sugar	4 whole star anise
2 large strips lemon rind, if available	¼ tsp. black peppercorns
2 sticks cinnamon, halved	

Directions (Preserving Pears)

1. Pour 6 cups of water into a large bowl and add lemon juice, if available. Peel pears, adding them to the bowl as you work. Work quickly to prevent excessive browning of pears.
2. Meanwhile, in a large heavy nonaluminum saucepan, dissolve sugar in wine and 3 cups water. Add ginger and cinnamon and rind, if using. Using a small square of cheesecloth and string, create a bag to secure cloves, cardamom, anise and peppercorns. Add to pan and boil for 5 minutes.
3. Drain pears and add to pan. Reduce heat and simmer for 5-15 minutes, stirring occasionally, until pears are easily pierced with a knife. Remove pears with slotted spoon and divide between 3 2-cup canning jars.
4. Boil syrup for 10-12 minutes, skimming the top if necessary, and reduce to about 3 cups of liquid. Strain and divide between the 3 jars. Discard rind and ginger. Untie cheesecloth and divide spices and cinnamon between jars.
5. Run narrow spatula between pears and jar to release air bubbles. Add more liquid if needed to reduce air at top of jar. 6. Seal with prepared lids. Process in boiling water bath for 10 minutes. Let cool. Makes 6 cups.



Fig. 6.8. Poach pears in red wine and spices.



Mulled Pears with Goat Cheese Mousse: Goat Cheese Mousse

Small container of Monforte unripened chevre
Confectioner's sugar
Small carton whipping cream
Vanilla extract or one vanilla bean (optional)
Salt (optional)

Directions

1. Place chevre in medium bowl and break apart. Whisk with a fork until smooth and creamy.
2. Add confectioner's sugar to chevre, one teaspoon at a time, blending with a fork between additions. Repeat until desired sweetness.
3. Add vanilla extract, if using, or seeds from vanilla bean (slice pod in half and scrape out seeds using dull edge of knife) and whisk until chevre mixture is light and creamy.
4. In a separate bowl, place whipping cream, and using an electric mixer or wire whisk, beat until peaks form.
5. Add a few tablespoons of whipped cream to chevre mixture and blend with a wooden spoon or spatula. This helps prevent lumps while maintaining the fluffiness of the cream.
6. Fold in additional whipping cream until desired consistency. (Mousse should hold its shape, with a custard-like texture.)
7. Cover and refrigerate for at least an hour, until ready to serve.

Directions (Pears with Mousse)

8. To serve, open jar of preserved pears, and use a strainer to separate the pears from their juices. Reserve the juices for the sauce.
9. Place the juices in a small pot, and heat until boiling. Reduce temperature and allow to simmer until juices are thickened and approximately one third of their original volume. Place sauce in bowl and allow to cool in refrigerator.
10. Take mousse out of refrigerator, and spoon about cup in each bowl.
11. Place a preserved sugar pear on mousse.
12. Drizzle with cooled sauce and dust with cinnamon (optional).

Fig. 6.9. *Opposite*, Mulled pears with goat cheese Mousse.

The Provenance of Recipes

The following are accounts of my recipe sources and inspiration.

1.0 Thin-Crust Pizza

The ingredient combinations proposed were inspired by my experiences living in Italy, observations working at the Farm-to-Table restaurant in Niagara, traditional dishes, and reading about current trends in flavour pairing. The Peach, Pecorino and Basil Pizza, for example, was invented by starting with a classic Caprese pizza, substituting fresh peaches for the fresh tomatoes, and using local pecorino, as buffalo mozzarella has only recently become available from Canadian cheese-makers. The Apple, Onion, and Cheddar pizza arose partially from memories of apple pie with cheese, the Squash, Grape and Goat Cheese pizza from a salad I heard about at Treadwell, and the Strawberry, Lemon, and White Chocolate pizza (with Cilantro), from an online article on Molecular Gastronomy. The basic crust recipe was taken from my favourite low fat recipe book – *Looneypoons*⁵⁸, created by sisters Janet and Greta Podleski – and adapted to incorporate different types of flour, to compliment different ingredient combinations.

2.0 Maple-Roasted Squash Soup

I obtained the original squash soup recipe while working at Treadwell, a Farm-to-Table restaurant in Port Dalhousie, Ontario, near my hometown, Niagara-on-the-Lake. The soup was a favourite amongst customers and staff alike, myself included. Once I witnessed how,

and with what the soup is made, however, I found it hard to enjoy the soup: the original recipe is incredibly high in calories and fat. I resolved take the recipe, cut out any unnecessary oils or sugars, and change the method of preparation where needed to recreate the silkiness of the Treadwell soup.

3.0 Berry Bran Muffins

This recipe was adapted from one I found in an online recipe database, *Recipezaar*⁵⁹. I spoke with professional bakers⁶⁰, referenced baking tips found online,⁶¹ and used the information I learned about nutraceuticals⁶² to propose ingredient replacements and additions. Then, through trial and error – making a series of adjustments to dry-wet ratio, and quantity of added ingredients – I developed a recipe that yielded the desired flavour, texture, and health benefits.

4.0 Tilapia with Cilantro and Lime

This recipe was developed using ingredients found in my kitchen – I often attempt to replicate and improve upon restaurant dishes at home. The combination of cilantro and lime was inspired by recent experiences eating at Thai and Vietnamese restaurants. After eating a shrimp dish with fresh lime, garnished with cilantro, I decided to purchase those ingredients my next visit to the grocery store. Earlier, I'd discovered Tilapia in the frozen seafood section and, after examining its nutritional

content, opted to try it. Later that week, in a rush to prepare dinner, I cooked the tilapia, made the sauce (reducing the sugar and salt by using alternatives on hand), and prepared rice and salad on the side – all in less than 20 minutes.

5.0 North House Salads

The creation of these recipes was one of my responsibilities as part of Team North – The University of Waterloo, Simon Fraser, and Ryerson students and faculty submitting an entry to the 2009 Solar Decathlon. The salads were to be served at two separate dining events held at our house, on the National Mall, and were to represent our ideals, in edible form. To show the extent of our sustainability, and reduce the meals' carbon footprints and increase nutritional, I started with the seasonal schedules of both Southern Ontario (where the house was designed for, and built) and Washington D.C.. By cross-referencing the ingredients available during the October competition, I generated a list of potentials. From those, I picked foods that I knew would work well together, foods with interesting textures and colours, and complimented them with foods characteristic of Canadian cuisine (eg. Maple syrup) which are available year-round. The salad dressing was made with ingredients on hand, whose rough proportions were adjusted after tasting. The proportioning of salad ingredients was determined by strength of flavour, and refined to enhance awareness and beauty by balancing colour and texture.

6.0 Mulled Pears with Goat Cheese Mousse

The combination of these two recipes into a single dish was my own creation – inspired by memories of home and favourite food triggering other memories of food. The pear recipe originally came from the Canadian Living Cookbook for Fruit⁶³, and I made it several times prior to pairing it with mousse. The mousse recipe is an amalgamation simplification of recipes I found via Google – the sweetening of savoury⁶⁴, and the lightening of heavy⁶⁵. I wanted a soft, sweet mousse, and thus added confectioner's sugar – rather than salt or white chocolate – to the goat cheese, and cut the gelatine from the recipe. I folded in the whipped cream, until the mousse reached the desired consistency.

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