

CLASS NOTES

RECIPES, READING MATERIALS & MORE!

(NEWEST NOTES ON TOP - KEEP SCROLLING DOWN!)



CHAMPAGNE & OYSTERS

Faculty: Tom Stocks (Taylor Shellfish Farms) & Nelson Daquip

[Thursday, November 5th](#)

- Samish Bay Pacifics Oysters from Taylor Shellfish Farms
- Kumamoto Oysters from Taylor Shellfish Farms
- Shigoku Oysters from Taylor Shellfish Farms

SEE TECH SHEETS AT THE END OF CLASS NOTES FOR SPECIFIC DETAILS ON THE OYSTER SPECIES

BOXED & CANNED WINE: A SOMMELIER SYMPOSIUM

Faculty: Erica Catubig & Nelson Daquip

[Thursday, October 29th](#)

- Nomadica, Sparkling White, CA (1 Can)
 - With Li Hing Gummy Bears
- La Petite Frog, Picpoul de Pinet, FRA (6oz)
- Bota Box Sauvignon Blanc, CA (6oz)
- Old Westminster, Pinot Gris, Seeds & Skins, MD (1 Can)
 - With Cool Ranch Doritos
- House Wine Pinot Noir, WA (1 Can)
- From the Tank, Rhône Red, FRA (6oz)
 - With Himemaru
 - Also with TV dinner

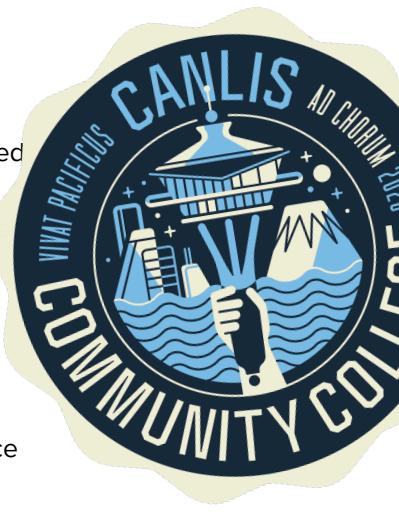
CANNING & PICKLING 101

Faculty: Sous Chef John Courtney & Anne Marie Canlis

[Wednesday, October 28th](#)

Apple Butter:

- 6 - 10 apples
- 2 cups white wine or water
- 2 cups apple cider vinegar
- 2 cups sugar (any, but not powdered)
- 1 stick cinnamon
- 2 pieces star anise



Pickle Brine:

- 8 cups water
- 8 cups white wine vinegar or apple cider
- 1 cup salt
- 1/4 cup sugar

Dill Pickle:

- 6 cucumbers
- 1 tablespoons pickling spice
- 1 bunch dill
- 1 shallot
- 4 cloves garlic
- 2 cups pickle brine

Pickling Spice:

- 5 tablespoons mustard seed
- 5 tablespoons coriander
- 5 tablespoons black pepper
- 3 tablespoons chili flake

Beet Pickle:

- 6 - 10 baby beets
- 1 shallot
- 1 tablespoons pickling spice
- 3 cups pickle brine

CANABLIS: A HIGHER EDUCATION

Faculty: Jody Hall & Brian Canlis

Tuesday, October 27th

Chocolate Chip Cookie Recipe

Ingredients:

- All Purpose Flour - 3 3/4 cup (473 grams)
- Baking Soda - 1 tsp (5 grams)
- Baking Powder - 1 tsp (5 grams)
- Kosher Salt - 2 1/4 tsp (10 grams)
- Vanilla Extract - 1 1/2 tsp (6 grams)
- Unsalted Butter - 1 1/4 cup (283 grams)
- Cannabutter* - 1 1/4 cup (283 grams) SEE NOTE***
- Brown Sugar - 1 1/2 cup (330 grams)
- Granulated Sugar - 1 cup (200 grams)
- Large Eggs - 2
- Dark Chocolate Chips (chopped) - 1 1/3 cup (225 grams)
- Milk Chocolate Chips - 1 cup (180 grams)

Directions:

- Preheat oven to 350 degrees F.
- Cream both sugars with butter for 6 minutes on medium speed.
- All flour and other ingredients whisk together in a separate bowl.
- Add in one egg at a time until they are incorporated.
- Add in vanilla.
- Turn the speed down and incorporate the flour mixture in 3 parts until totally homogenous.
- Fold in the chocolate chips at the end.
- Scoop into 3 tablespoon balls and bake at 350 degrees F for 18-20 minutes rotating half way through.

*****NOTE:**

1. Make your Cannabutter in advance of the steps & recipe below.
OR - take the easy route and...
2. Purchase 100mg THC tincture oil (or RSO). We'll reduce butter by 1 tablespoon (or 14 grams) if oil is in 15ml; if in 30ml, sub out 2 tablespoons (28 grams) of butter.

Cannabutter (recipe makes one pound, but we will only use a portion of this on the show):

- Unsalted Butter - 1 pound
- Cannabis Flower - 7 grams

(Honestly, you can purchase any size and infuse into any amount of butter. For this effort, we suggest infusing 7 grams into 1 pound of butter.)



STEP 1: Decarboxylate the cannabis

1. Preheat oven to 250 degrees F
2. Roughly grind or break apart your favorite cannabis - you want it to look like the size of a grain of rice, not too fine or you risk burning.
3. Line a baking sheet with aluminum foil (important to regulate heat with direct contact to the pan.)
4. Evenly spread the ground cannabis on the lined baking sheet - make sure the cannabis is very thinly spread for even decarboxylation.
5. When the oven is preheated, place the cannabis baking sheet into the oven - middle rack.
6. Cook for 30 minutes, stirring every 10 minutes or so to avoid burning.
7. After 30 minutes, remove the baking sheet from the oven and allow to cool for 30 minutes.
8. The cannabis can now be transitioned to your infusion medium of choice or stored for future infusion. (Butter is best!)

STEP 2: INFUSE into butter

1. Melt butter in a crockpot on high.
2. Once butter is melted, add your decarboxylated cannabis
3. Infuse for 3 hours - Use a thermometer to make sure butter stays between 175-200 degrees F - stir every 20 to 30 minutes.
4. After 90 minutes, turn the crockpot to low (ensure temp is between 175-200 degrees F.)
5. After 3 full hours your butter is now infused.
6. Place a cheesecloth over a mesh liner or colander. Pour contents of the crockpot into the cheesecloth. Once butter has drained, wrap cloth around solids and squeeze.
7. Store butter in the fridge or freezer until ready to use for recipes.

STEP 3: determine potency of butter

1. Packaging should have the THCA and THC % available to you.
2. Math: example: THCA = 22.2%; THC = 0.7%. Equation to determine how much THC is $(.88 \times \text{THCA}) + \text{THC} = \text{Total THC}$
3. Example: After Decarboxylation: Total THC = $(0.88 \times 22.2\%) + 0.7\% = 20.2\% \text{ THC}$
4. Math: Multiply THC by number of grams purchased x 1000
5. Example: I purchased 7 grams: $7 \times (20.2\% \times 1000)/100 = 1414 \text{ MG THC}$
6. Math: 1 pound of Infused Butter = 32 Tablespoons
7. Example: 1 pound butter will have 1414 MG THC. Divide 1414/32 to get MG THC per Tablespoon
8. In this example, every Tablespoon of butter will have 44mg THC. POTENT!
9. Determine potency of each cookie to determine how much butter needed. I suggest 5mg/cookie
10. In this example, making 34 cookies, we'll need 170mg THC or about 4 tablespoons (or 55g) of pot butter to combine with 228g regular butter.

SEE SLIDE SHOW AT THE END OF CLASS NOTES FOR MORE DETAILS



CANLIS CLASSICS

Faculty: Mr. & Mrs. C & Mark Canlis

Thursday, October 22nd

Recommendations:

- Napoleon Olive Oil - use the lowest grade olive oil

Wines from the class:

- WT Vintners Grüner Veltliner, Horse Heaven Hills, WA
- Orr Chenin Blanc, Columbia Valley, WA
- Buty Sémillon, Sauvignon Blanc, Muscadelle, Columbia Valley, WA

Canlis Salad Recipe:

Salad ingredients:

- 1 large head of Romaine
- 12 cherry tomatoes, halved
- 1/2 cup chopped green onion
- 1 cup freshly grated Romano cheese
- 1 cup rendered chopped bacon
- 3/4 cup chopped fresh mint
- 1 tablespoon freshly chopped oregano

Dressing ingredients:

- 1/2 cup olive oil
- 1/4 cup lemon juice
- 1/2 teaspoon fresh ground pepper
- 1 coddled egg
- 1 cup croutons

Directions:

1. Place your tomatoes into the bowl. Wash Romaine, then slice into 1-inch squares, and add them into the bowl as well. Then add your green onions, cheese, bacon, oregano, and mint.
2. To make the dressing - put the pepper, lemon juice, and coddled egg into a bowl and whip vigorously. Then slowly add in the olive oil, whipping constantly and tasting as you go.
3. Pour dressing over your salad and toss. Add in croutons and toss again. Top with a sprinkle of Romano cheese and mint. Add salt and pepper to taste

Peter Canlis' Prawns:

Ingredients:

- 1 tablespoon olive oil
- 6 prawns peeled, cleaned, butterflied
- 1 teaspoon chopped garlic
- 2 teaspoons freshly squeezed lemon juice
- 2 tablespoons dry vermouth
- 2 tablespoons unsalted butter, cut into pieces
- salt and pepper to taste

Directions:

1. Heat the olive oil in a large skillet over
2. medium-high heat until hot and just beginning to smoke. Season prawns with salt and pepper. Turn heat to medium, add prawns and cook until lightly browned, about 2 minutes per side. Pour off any remaining oil in pan.
3. Add garlic and vermouth, simmer and reduce by half. Add in your lemon juice, along with more salt and pepper if desired. Continue to reduce for 1 minute, shaking the pan gently.
4. Add butter, remove pan from heat, and swirl to gently melt butter and incorporate it into the pan juices. Spoon prawns and butter sauce onto individual plates and serve immediately.



BAKING WITH THE BREAD LAB

Faculty: Louie Prager, Stephen Jones & Mark Canlis

Tuesday, October 20th

Here is a formula for a batard (oblong rustic loaf). We typically use this for a boule (rustic round loaf)—just depends on which proofing basket you have at the ready. No proofing basket? No biggie—you can use a bowl with a floured towel in it.

To make one loaf (see page 4 for a recipe with household measurements):

BATARD

- 166.67g Starter (14.49%)
- 416.67g Water (36.23%)
- 555.56g Flour (48.31%)
- 11.11g Salt (0.97%)

Total Weight (1150g)

We use a stiff starter (20g starter 60g water and 100g flour for the feeding part)

1. On the night before you bake:

Prepare your levain (or “starter” or “poolish”—people use all different words). Mix together:

- 20g starter* (this is known as the “seed”) (I actually take mine out of the fridge and just go for it, but using a ready, bubbly, fed starter is probably best practice)
- 60g water
- 100g flour

*This is a “stiff” starter. Will seem very dry and like it couldn’t possibly work. It will. Just mix it, cover and let sit on your counter overnight (12-15 hours). When you wake up it’ll be all poofed up and bubbly.

2. Now you’re ready for your initial mix.

1. Get out your sturdy stand mixer fitted with the dough hook and combine:
 - Starter
 - Water
 - Flour
2. Mix until just incorporated. Let stand 15-30 minutes.
3. Add salt.
4. Mix 3 minutes at first speed.
5. Mix 4-6 minutes at second speed. (Bakers will say, “watch for full development.” That’s a learned response. I just watch for when it gets smooth and uniform and leave it at that.)



3. Bulk fermentation time. This is basically when the dough rests for a LONG time and you fold it occasionally. Here's the schedule I use—I have good results.

- Oil a bowl or small bin (I use olive oil and a retro Tupperware bin with a lid.)
- Scrape/dump/pour/lift the mix from the mixing bowl into the bowl/bin.
- Cover and let sit for 30 minutes.
- Fold. (I do this right in the bin. You pull up the edge of the dough furthest from you firmly, but not tearing, and fold it toward you. Now, rotate the bin 180 degrees and do the same. Now rotate 90 degrees and do the next side and then the last. Kinda like wrapping a package—check it out on [The Perfect Loaf](#). He does it a bit differently than we do at the lab, but you'll find what works for you.)

Cover and let sit for 30 minutes.

Fold. (Same as above.)

Cover and let sit for 30 minutes.

Fold. (Same as above.)

Cover and let sit for 30 minutes.

4. Preshape. This is where you make an initial round shape. Check it out on King Arthur Flour's website:

<https://www.kingarthurbaking.com/blog/2019/02/08/preshaping-bread-dough>

5. Let sit for 30 minutes uncovered on the counter.

6. Shape. This is where you do the final shaping and put the dough into the proofing basket for final rise.

I won't even try explaining it. Again, see [The Perfect Loaf](#). (Tip: remember to put the dough into the basket seam-up!)

7. Let sit for about an 1-1.5 hours.

This is the tricky part—there is a test you can do with your finger to know if it's proofed. But I just kinda look and feel and see if it seems bubbly and ready to go and I bake it.

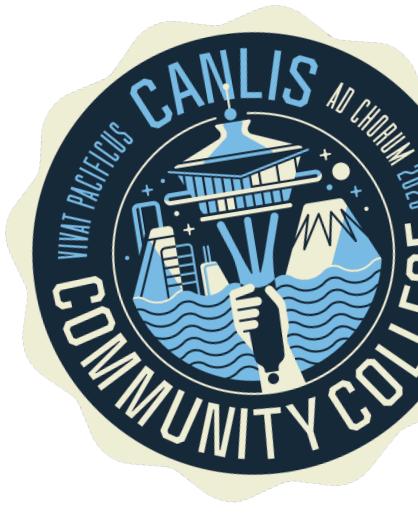
8. Preheat oven for an hour at 425 degrees F and use a baking stone. I place the loaf onto a floured peel to load onto the stone. You'll want to slash the top before baking. I am getting better, but it takes practice. And it's fun.

9. Steam! A professional baker uses steam.

To achieve this I put a cast iron pan in the bottom of the oven for the preheat. Right after I load the bread I pour in a cup of water. I also mist the bread lightly using a water bottle.

9. Bake for about 40 minutes. (Kinda depends on your oven, but 40 should work well.)

OTHER TIPS & TRICKS:



Make Your Own Sourdough Starter

4. Measure out equal parts flour and water in a small bowl.
5. Stir until well mixed.
6. Leave the mixture out at room temperature covered with a loose-fitting lid or towel.
7. Feed the starter with 1-2 Tbsp. each of flour and water every day in the morning and at night and stir until mixed.
8. You should start to see bubbles in the starter in about 3-5 days depending on the environment where you live. After 5 day your starter is probably active and ready to use.
9. If you don't think you'll be baking for a few days, you can store your starter in the refrigerator and feed weekly or continue to store at room temperature and feed daily.

Sourdough Maintenance

There are many ways of keeping a sourdough starter alive. The most important criteria in choosing one is that it fits your schedule, not the opposite. Sourdough starters are a community of microorganisms that, thanks to its diversity, thrive with minimum inputs such as water and flour. Thus, doing harm to your starter will be more difficult than you might imagine.

Starter Feeding:

- $\frac{3}{4}$ cup / 100 g whole wheat flour
- $\frac{1}{4}$ cup / 70 g water
- 1 tsp / 5 g starter (seed)
- Mix water and starter until the starter is dissolved. Add flour and mix until you get a homogeneous dough. Let it rest for 10 hours at room temperature or put it in the refrigerator.

Such a starter can be kept in the refrigerator for up to two weeks before requiring some attention (repeat the above-mentioned steps). In case you forgot to feed your starter, discard the dark, watery substance on top, take a teaspoon of what is left and add flour and water as written above.

When you intend to bake with your starter, it is a good practice to feed it instead of using it straight from the refrigerator. Suppose you will be making an Approachable Loaf: 10 hours before you plan on mixing the dough take a tablespoon of starter, dissolve it in $\frac{1}{2}$ cup lukewarm water and add $1\frac{1}{4}$ cup whole wheat flour. Mix and let it rest. You will be able to tell when the starter is ready to be used by its characteristic sour flavor and scent and by the presence of many air bubbles.

Curiosities:

The amount of time that is required for the starter to go through the of flour that you have added to it will depend on:

- Stiffness of the starter → The runnier the starter the faster it will turn sour and be ready to be used. You can make a runnier starter by adding more water.
- Temperature → The warmer the temperature of the environment where you place the starter, the more active the starter will be, hence require less time to be ready to be used.
- Amount of seed starter → The higher the amount of the seed starter you add (in the recipe outlined above is 1 teaspoon) the less time it will need to ferment.

Whole Wheat Sourdough Bread



Get Ready to Bake

The first step in baking (and also in conducting scientific experiments) is getting your tools and ingredients together. Then, it helps to create a rough timeline for your recipe. This careful planning helps you prepare—both physically and mentally—for what's ahead! Sourdough bread takes about 24 hours to make, from start to finish. But most of those hours are resting time for the dough—and for you—while the microbes do their work to make bubbles and build flavor.

What You Need

- large bowl
- measuring cups
- measuring spoons
- dough scraper
- dish towels or plastic wrap
- 8" × 4" loaf pan
- nonstick spray or oil
- Ingredients
- starter
- whole wheat flour
- water
- salt

Timeline for Baking

- Sourdough Mix: 12–15 hours, mostly resting time
- Bread Dough: 8–10 hours for mixing, kneading, folding, shaping, resting and baking

Sourdough Mix

- 1 cup whole wheat flour
- ½ cup water, warm to the touch
- 1 TBSP active whole wheat sourdough starter (see above)
- Mix all ingredients until there are no lumps or dry flour in the bowl. Cover with a clean, damp dish towel or plastic wrap and leave in a draft-free place at room temperature for 12–15 hours. When it is ready, the mix will have expanded to 2–2½ times its original size.

Bread Dough

- 3 cups whole wheat flour
- 1¾ cups water, warm to the touch
- 2 tsp salt
- All sourdough mix (recipe above)

Mixing

Place the flour, water, salt and sourdough mix in a large bowl. Mix together just enough to combine the ingredients. Cover with a clean, damp dish towel or plastic wrap to prevent the surface from drying out and let rest for 20 minutes.



Kneading

Place the dough on a clean work surface, no flour needed. Gently pull the edge of the dough that is closest to your body toward yourself until it won't go any farther without tearing. Fold the dough in half, and then turn it 90 degrees clockwise. Use a dough scraper to loosen the dough if it sticks to your work surface. Continue to stretch, fold and turn the dough for 8–10 minutes. The dough will change over this time, getting stronger and sticking to the work surface less and less. Form the dough into a ball, and place it into a bowl that is lightly dusted with flour. Cover with a clean, damp dish towel or plastic wrap and leave in a draft-free place at room temperature for 45 minutes.

Folding

Scrape the dough onto a very lightly floured surface without tearing it. Gently stretch the edges from the center in four directions, as far as you can without tearing it. Starting with the edge closest to you, fold the stretched dough back to the center. Next, do this with the edge opposite you. Then, fold in the left edge, and finally, the one on the right. Dust the bowl with a little more flour and return the dough to the bowl with the smooth side up. Cover it with a clean, damp dish towel or plastic wrap, and let rest for 45 minutes. Repeat with folding process two more times, resting the dough for 45 minutes between each folding. After the third time, let the dough rest, covered, for one hour.

Shaping

Lightly coat the inside of your loaf pan (8" × 4") with oil or a nonstick spray. Sprinkle your work surface lightly with flour. Put your dough on the floured surface with the smooth side down, being careful not to tear it. Lightly pat the dough down into a rectangle no wider than your loaf pan. Starting at one end, roll the dough into a log, pinching the end to seal it. Place the dough log into the pan with the pinched side down. Cover the pan with a clean, damp dish towel or plastic wrap and let the dough rise in a draft-free place for three hours.

Baking

Place your oven rack in the lower third of the oven. Preheat the oven to 450°F for 20–30 minutes before you are ready to bake. Uncover the loaf pan and place it in the oven. Close the oven door and lower the temperature to 425°F. Bake for 40–45 minutes or until the loaf is nicely browned on top. Remove the loaf pan from the oven, turn it out of the pan, and place on a wire rack to cool.

Have Fun!

UNSIFTED

How do we in The Bread Lab define whole grain bread? The answer is simple. Whole grain bread is made with flour in which the whole kernel goes into the mill and the whole kernel comes out of the mill (in flour form). The term “whole grain” is often used loosely. We frequently hear bakeries calling a loaf “whole grain” when it contains only a small percentage of whole grain flour. In some ways, this is a step in the right direction. After all, some whole grain is better than none. It is, however, still misleading. When bread made with a percentage of unsifted flour along with a percentage of white flour is labeled as whole grain, we dilute the meaning of whole grain.

We are advocates of unsifted flour. Flour that has not been run through a series of sieves to remove the bran and germ. Unsifted flour may be a bit coarser and darker in color. Who decided that these qualities are undesirable, thus we must remove them? The reasons given for sifting flour are varied. Some argue that this starts with the millers, who, in turn, might counter that the bakers demand sifted flour. To further complicate the matter, the bakers may say consumers won’t purchase bread made with 100% unsifted flour. Still others argue that consumers simply aren’t aware of the case for whole grain.

It may be economically favorable to sell a loaf made with half whole grain flour and half white flour. White flour is less expensive. But how can this be? Why is the flour for which production requires additional processing and expensive machinery less expensive? How can a flour that requires 25% more wheat to obtain the same flour yield be less expensive?

White flour with the bran and germ sifted off is the predominant flour choice in the United States. On average, white flour is around 75% extraction. Extraction rate is a baking term referring to the percentage of the original grain kernel remaining in the flour. A higher extraction rate indicates less of the bran and germ has been sifted off. Thus, a 75% extraction indicates 75% of the original grain kernel remains in the flour and 25% has been sifted off. When we remove the bran and germ to make white flour, we lose much of the nutrition. In one study, the removal of the bran and germ (at 72% extraction) in wheat resulted in a 67% loss of folate, 76% loss of iron, 80% loss of niacin, and 77% loss of thiamin.

These are all nutrients which the FDA has required to be added back in their synthetic form to white flour labeled as “enriched”. Does it not make more sense to leave these nutrients in our flour in their original form and simply not sift? In the case of wheat, white flour has also lost essentially all the fiber originally found in the grain—a nutrient essential for a diverse gut microbiome and, consequentially, for optimal immune function, metabolic rate, and nutrient absorption. Current American dietary recommendations for fiber intake are 25-38 grams per day. Most Americans eat half this or less. Recent research suggests that fiber recommendations should be raised to at least 50 grams per day if not higher. For reference, one slice of The Approachable Loaf contains about 5 grams of fiber. Most grocery store white breads have from 0-1 gram.

By refusing to sift, we are using everything that the farmer harvested. When flour is sifted, the removed bran and germ may be sold as low-value animal feed or even discarded as compost in some situations. Why do we continue to stand by and devalue the most nutritious part of the grain? This is akin to using a \$20 bill as toilet paper. As plant breeders, yield is an important target. Is not a 25% loss of our final product yield equivalent to a 25% yield loss in the field? It's about the best use of the land.

Why 100% unsifted? Why would one value healthful, nutrient-dense food?

We need food to survive. Food fuels our heartbeat, cognition, and movement. Food also represents our need for something outside of ourselves. In the same way that we must eat to fuel life, we are fueled by community outside of our relationship with ourselves. Of course, humans have a right to choose their own food. Thus, if one wants to eat squishy white bread most days, that is their right. The truth is, we have put a premium on more nutrient-dense food. Squishy white bread (with a dose of calcium propionate and vital wheat gluten) is always less expensive than 100% unsifted bread made with no nonfood ingredients. Economic inequity is where the problem lies. Nutrient-dense foods are less available to those with smaller incomes. Industry has created the illusion of free will to promote their insider interests—gaining financially from decisions within the food system that contribute to our poor health.

Inequity is disguised as free will. This inequity cuts at the heart of our obligation to nourish all humans with healthful, nutrient dense, minimally processed foods. Nutrient dense, minimally processed food equates to UNSIFTED.





References:

Poutanen, K. (2012). Past and future of cereal grains as food for health. *Trends in Food Science and Technology*. 25:58-62.

Schroeder, H.A. (1971). Losses of vitamins and trace minerals resulting from processing and preservation of foods. *The American Journal of Clinical Nutrition*. p. 562-573.

Whitley, A. (2009). *Bread Matters: the state of modern bread and a definitive guide to baking your own*. Andrews McMeel Publishing, LLC. Kansas City, MO. p. 22-23.

For additional references, if you wish, contact Merri Metcalfe at
merri.metcalfe@wsu.edu

Recipes compiled and adapted from, and by Jeff Yankellow, Robin Morgan, Laura Valli, Merri Metcalfe, Kim Binczewski, Niels Brisbane, and Julia Bernstein.

Whole Grain Chocolate Chip Cookies:

- 1 1/4 C whole wheat flour (we only use unsifted at WSU Breadlab, but a home baker can use whatever they can find! Fairhaven Mill does not sift their flour)
- 1 C whole rye flour (again, we use unsifted)
- 1 tsp baking soda
- 1 tsp salt
- 1 C (two sticks) unsalted butter (room temperature)
- 3/4 C brown sugar
- 3/4 C granulated sugar
- 2 large eggs
- 2 C chocolate chips (I used semi sweet ghirardelli, but milk or even white would work)
- 1 C chopped pecans

Preheat oven to 375 degrees.

1. In a medium bowl mix together flour, baking soda and salt. Set aside.
2. Cream butter and sugars until smooth.
3. Add eggs one at a time. Mix well.
4. Add flour mixture in three separate parts, mixing well in between.
5. Add chips and pecans just until mixed.
6. Drop by spoonfuls onto ungreased or parchment-lined baking sheet. Bake 9-11 minutes.

BRADY AND MEL DO FILIPINX FOOD

Faculty: Melissa Miranda & Brady Williams

Wednesday, October 14th

Lumpiang Shanghai Recipe

Ingredients:

- 1 pound ground pork (70/30 gives the most flavor)
- 12 pieces of peeled and deveined shrimp, chopped finely
- 1 medium carrot, peeled and grated
- 1 small onion, minced
- 1 small can of water chestnuts, minced
- 3 Tablespoon oyster Sauce
- 2 Eggs, beaten slightly (reserve one egg for sealing your lumpia)
- 2 teaspoons black pepper
- Johnny's Seasoning to taste

- 1 Package of TY Spring Roll Pastry (*This is the preferred wrapper because it has a lot of give and forgiveness when taking each sheet off, it also doesn't dry out as quickly as the other wrappers. And honestly it fries really crisp and consistently*)
<https://www.amazon.com/Spring-Roll-Wrappers-Square-Sheets/dp/B01IFCK90K>
- Canola Oil

Homemade lumpia sauce:

- ½ cup Cane Vinegar
- 1 Tablespoon Maggi Seasoning
- 1 Clove of minced Garlic

For store bought dipping you can use:

https://www.amazon.com/Sweet-Chili-Sauce-Chicken-12oz/dp/B00NN6UISM/ref=sr_1_4?crid=2QQMYNJ239CK1&dchild=1&keywords=sweet+chili+sauce&qid=1602186180&s=grocery&sprefix=sweet+chili%2Cgrocery%2C277&sr=1-4

Directions:

1. In a bowl, combine all the filling ingredients; mix thoroughly.
2. Scoop out a tablespoon and form into a ball. Test fry your filling and adjust taste if need be.
3. Pull off one wrapper and lay on a cutting board. And put the set aside beaten egg in a small bowl
4. Place a tablespoon of the mixture on each spring roll pastry.
5. With your hands, form it into a thin log, and fold pastry over and roll 1 and a half rotations, fold the sides in, and continue to fold with 1½ inches left on the top.
6. Brush the top with the egg wash and roll till sealed.
7. Deep fry, a few pieces at a time, in hot oil until golden brown and cooked through, about 4-6 minutes. Drain on paper towels to remove excess oil.
8. Serve hot with sweet chili sauce or ketchup as a dipping sauce. Enjoy!

Freezing:

You can freeze the lumpia as well. Place on a baking sheet and freeze. Once frozen you can place them in ziplock bags. You can fry from frozen as well, just make sure your oil isn't too hot and that you have a cover to avoid splashing.

Musang's Pancit Canton Recipe

Ingredients:

- 1 medium yellow onion, sliced thinly
- 5 cloves garlic, peeled and minced
- 2 carrots, peeled and julienned
- 2 stalks celery
- ½ cabbage (purple or green), shaved thinly
- 10 button mushrooms
- 2 stalks green onions, cut in rounds (garnish)
- 1 lemon, cut into wedges (garnish)
- 1 pack Pancit Canton Noodles, fresh not dry (can use Yakisoba or Miki Noodles)
<https://fsiseattle.com/products/wan-hua-noodle-yakisoba-4-5-lb/>
- Wan Hua is a great brand and can be purchased at any asian grocery store like Fou Lee, Viet-wah, or Uwajimaya.
- 1 Tablespoon soy sauce
- 1 Tablespoon Knorr Liquid Seasoning
- 2 cups mushroom stock or bouillon cube
- 2 Tablespoon canola oil
- Salt and Pepper to Taste





Directions:

1. Heat oil on medium high heat in a large wok or large skillet.
2. Sauté garlic and onions till golden brown and translucent.
3. Add carrots and celery, cook for 1 min. Season with salt and Pepper.
4. Add cabbage and mushrooms, cook for 3-4 minutes, until veggies are tender but still crisp.
5. Season with salt and pepper.
6. Add oyster sauce, Knorr Liquid Seasoning, soy sauce, mushroom stock and add noodles and cook until liquid is absorbed and noodles are done, about 8-10 minutes.
7. Remove from heat. Season with black pepper (if needed).
8. Garnish with lemon wedges and Green Onions. Enjoy!

HISTORIC SEATTLE RESILIENCE WITH MOHAI

Faculty: Leonard Garfield & Brian Canlis

Wednesday, October 14th

"One of the most responsible things we can do as citizens is to know our past so that we can know how best to move forward."

Recommended Reading:

- Chief Seattle and the Town that Took His Name: The Change of Worlds for the Native People and Settlers on Puget Sound

INTRODUCTION TO COCKTAILS

Faculty: Ali Daniels & James MacWilliams

Thursday, October 8th

Rum cocktails

Bacardi Cocktail

2oz rum
3/4oz lime juice
1/2oz grenadine
10 drops or 2 dash bitters

*Pour all ingredients into a shaking vessel and add ice.
Shake and strain into a cocktail glass and garnish with a lime wheel.*

Daiquiri

2oz rum
3/4oz lime juice
1/2oz simple syrup

*Pour all ingredients into a shaking vessel and add ice.
Shake and strain into a cocktail glass and garnish with a lime wheel*

El Presidente

1 1/2oz rum
1 1/2oz dry vermouth
1/4oz grenadine
10 drops or 2 dash bitters

Pour all ingredients into a shaking vessel and add ice. Stir and serve up with orange peel garnish.



Almost Perfect

1 1/2oz Plantation Stiggin's Fancy Pineapple rum
3/4oz amaro (it is fun to play with different amaro here for changing the cocktail)
3/4oz Cocchi Americano
1/4oz maraschino
1/4oz grenadine
3 dash Angostura bitters

Pour or dash ingredients from smallest portion to greatest over a large ice cube in a double old fashioned glass or suitable glass. Stir briefly to incorporate the ingredients. Garnish with a lemon peel and edible flower finishing with lemon oil expression.

Mojito

2oz rum
1oz lime juice
1/2oz simple syrup
3oz soda water
8 mint leaves

Muddle mint leaves on the bottom of a glass. Add other ingredients, fill with ice and stir. Garnish with mint sprig and lime wheel.

Bourbon Cocktails

Manhattan

2oz bourbon
1oz sweet vermouth
10 drops or 2 dash bitters

Pour all ingredients into a mixing vessel and add ice. Stir until chilled, 10 to 20 seconds depending on the size and density of the ice. Strain into a cocktail glass and garnish with a cherry.

Gin Cocktails

Southside

2oz gin
3/4oz lime juice
1/2oz simple syrup
6 mint leaves

Muddle mint in bottom of a shaking vessel. Add all the other ingredients and ice. Shake vigorously for 10 to 20 seconds depending on the size and density of the ice. Strain into a cocktail glass and garnish with lime wheel.

Marmalade

2oz gin
1oz lemon juice and strain into a cocktail glass. Garnish with lemon peel.
1 Tbsp jam or marmalade

Pour all ingredients into a shaking vessel and add ice. Shake and strain into a cocktail glass. Garnish with lemon peel.



Clover Club

2oz gin
3/4oz lemon juice
1/2oz grenadine

Pour all ingredients into a shaking vessel and add ice. Shake and strain into a cocktail glass. Garnish with lemon peel.

Clover Leaf

2oz gin
3/4oz lemon juice
1/2oz grenadine
6 mint leaves

Muddle mint in a shaking vessel. Add ingredients and ice. Shake and strain into a cocktail glass. Garnish with mint leaves.

Aviation

2oz gin
3/4oz lemon juice
1/2oz Maraschino
1/4oz Violette (optional)

Pour all ingredients into a shaking vessel and add ice. Shake and strain into a cocktail glass. Garnish with lemon peel.

Grenadine

16oz POM
1 pound bakers sugar
1 orange for peels (optional)
Whole baking spice (optional)

Toasting baking spices in a hot pan and set aside. In a pot add POM and sugar over medium heat. Stir until the sugar is dissolved and turn the heat to low. Add orange peel and toasted baking spice. Simmer over low heat until the syrup is reduced by 1/3rd, about 45 minutes. Turn off the heat and let cool before straining orange peel and spice through cheesecloth. Store in an airtight container in the refrigerator for up to 2 weeks.

Quatre Epices Cherries

1 tsp whole allspice
1 stick cinnamon broken in half
4 whole cloves
1 tsp whole hite pepper
2 400g jars Luxardo Maraschino cherries
1/2cup sugar
1/2cup water
1/2cup rye whiskey

Toasting the spices in a dry pan and then tie up in a cheesecloth sachet. Over low heat combine sugar and water into simple syrup. Add the sachet of spices to hot syrup and let cool. Once cool stir in the rye whiskey. Strain the cherry syrup from the jars of maraschino cherries and set aside. (Leftover cherry syrup is delicious on ice cream or as an ingredient in a cocktail) Pour the strained cherries into an airtight container along with the simple syrup with spices and whiskey. Store in the refrigerator. You will likely eat them all before they go bad



Basic Tips & Tricks!

- Always refrigerate vermouth!
- Always use fresh juice when possible.
- Simple syrup will keep in your fridge for up to 2 weeks, or freeze a batch to keep longer .
- No need to refrigerate your bitters.
- Cherries should be refrigerated unless you plan on going through them in a week or two.
- Shake a drink vigorously. 10 seconds for smaller ice cubes, 20 seconds for larger ice cubes.

Our Favorites:

- Book: The Savoy Cocktail Book by Harry Craddock (for classic cocktail recipes)
- Scotch: Springbank (*according to Brian Canlis*)
- Glassware: John Jenkins Atlantic Coupe Champagne
- Book: The Fine Art of Mixing Drinks by David A. Embury (for classifying and categorizing cocktails)
- Book: The Cocktail of the Ritz Paris by Colin Peter Field (for conventions on naming, glassware and history)

FIELD TRIP: BIRDWATCHING

Faculty: Stump & Mackenzie Canlis

Thursday, October 8th

Stump's Recommended Birdwatching App:

- BirdsEye Bird Finding Guide

Reading Materials:

- The Sibley Guide to Birds

AT HOME HAIRCUTS WITH RUDY'S

Faculty: Jesse Taylor & The Canlis Crew

Wednesday, October 7th

Tools Needed:

- Scissors- Preferably a cheap pair of barbering shears. Something 6 inches makes it easier to cut a straight line.
- Comb- Preferably something that has a wide and fine tooth. This makes it easy for all hair types.
- Clippers- Preferably a pair that is adjustable to make blending any barbering work easier.
- Hair clips- anything that can help hold longer hair out of the way to keep yourself more organized with trim.
- Spray bottle- to keep your hair wet through-out this process.
- Blow dryer- once completed with the cut, blow-dry hair into your style to check your work with the possibility to do some detailed work.
- Round brush- to smooth out any long hair either after cutting or before to achieve a dry cut.

Self -Cut Notes:

(For shorter hair)

- Set yourself up in front of the mirror. Ask yourself, is this something you really want to do?
- If so, start with what you can see first. That might mean to divide your hair from sides and the top with either a far part for short hair or pulling all the hair on top of your head for longer hair.
- Try and match sides first. Short hair using a longer clipper guard with your first pass, you can always go shorter. For a taper you decrease the guard size going down the head.
- On the top, just start with a trim to avoid having to take everything shorter.
- Look in the mirror to see how much length you plan to cut. As you cut don't look at what you're doing, feel what you are doing. Sounds crazy right, cutting looking into the mirror throws you off and you can cut yourself.
- The back, either wing it with the same approach you used on the sides or leave it!! Everyone loves the mullet.

(For longer hair)

- Start with dividing your hair into sections to cut the perimeter. First section is from top of ear to top of ear.
- Pull length over your shoulder and cut to desired length. Comb the hair as smooth as you can before cutting to help create an even cut.
- Next section from temple around your head to temple. Secure the rest of the hair on top of your head. Follow the last section cut and trim the new section to the previous length.
- Drop the top and trim to desired hair length. Now this gives you a one length haircut.

(Bangs)

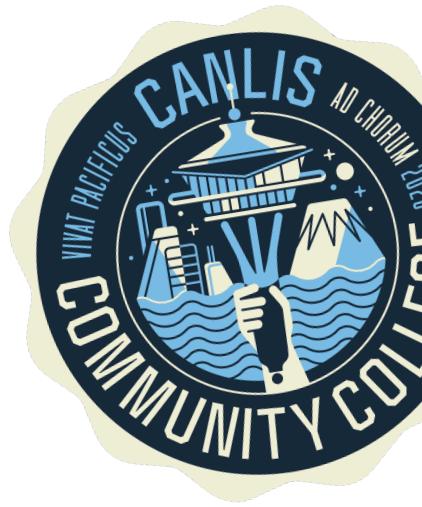
- Bangs- section out how much hair you want to have as bangs. Most of the time it's from corner of the eye to corner of the eye with a moon shaped section back 2-3 inches from forehead.
- Choose your bang shape- curtain, sweeping, or straight across.
 - Curtain is shorter in the middle and longer in the corners.
 - Sweeping is shorter on one side and gets longer on the other.
 - Straight - pretty self-explanatory.
- For all of these figures out your shorter side first and then cut to longer. Straight cut from middle to one side and repeat.

(Layers)

- Start with the top section again. From temple to temple around your head. Then divide it in half.
- Take the back section first, Pull everything up and trim 1-2, maybe 3 inches.
- Match the front section with the back. By pulling everything straight up, you will create an even fall which is the least likely to create a weight line.
- Comb the top into the way you normally wear your hair.
- Start on one side with a small vertical section, find the top of the layer you just cut.
- Pull that layer down to the perimeter length, you'll want to blend the top layer to the perimeter length.
- Do that all around the head.
- Congrats, you just gave yourself layers!!

IF you're lucky enough to cut someone's hair. These same tips and tricks can be used. Good Luck and stay safe!

From, Jesse



ASIAN PACIFIC SEATTLE ICONS WITH THE WING LUKE MUSEUM

Faculty: Rahul Gupta & Mark Canlis

Wednesday, October 7th

Rahul's Recommended Reading:

Seattle Stories (Non fiction):

- Asian American Dreams: By Helen Zia
- Bruce Lee: Sifu, Friend, and Big Brother: By Doug Palmer
- Building Tradition: Pan-Asian Seattle and Life in the Residential Hotels: By Rose Marie Wong
- Gang of Four: Four Leaders, Four Communities, One Friendship: By Uncle Bob Santos
- Ghosts of Seattle's Past: By Jaimee Garbacik and Joshua Powell
- Hum Bows Not Hot Dogs: By Uncle Bob Santos
- Jackson Street After Hours: Roots of Jazz in Seattle: By Paul de Barros
- Making of Asian America: A History By Erika Lee
- My Unforgotten Seattle: By Ron Chew
- Remembering Silme Domingo and Gene Viernes: The Legacy of Filipino American Labor Activism: By Ron Chew
- Seattle's International District: The Making of a Pan-Asian American Community: By Doug Chin
- Roots and Reflections: By Amy Bhatt and Nalini Iyer
- Meet Me at Higo: By Ken Mochizuki
- Strawberry Days: How Internment Destroyed a Japanese American Community: By David A. Neiwert
- We Lived Here: Stories from Seattle's Central Area: By Madeline Crowley
- Seeing the Light: Four Decades in Chinatown: By Dean Wong
- John Okada: By Frank Abe
- The Snake Dance of Asian American Activism: By Tracy Lai et al

Seattle Stories (Fiction):

- America is in the Heart: By Carlos Bulosan
- Beacon Hill Boys: By Ken Mochizuki
- Hotel on the Corner of Bitter and Sweet: By Jamie Ford
- Baseball Saved Us: By Ken Mochizuki

Food For Thought: A Dinner Date With History

Join us for an evening of food and history as we learn from the experts, the chefs behind our favorite Chinatown-International District and Seattle food scene. They'll share stories about themselves and their connection to history, their identity and food! Guests will be transported into our kitchens as well as into our museum's building, delving into the flavors and foods once shared within our historic walls.

You'll even be able to cook along with us! The featured recipes will be shared in advance and our chef will walk us through the steps, LIVE! A feast for your mind as well as your bellies, come join us for a dinner date.

The tour will be approximately two hours and on Zoom. <https://bit.ly/33Y9SCH>





DUMPLING FUNDAMENTALS

Faculty: Amy Wong, Hui Qun Liu & Brady Williams

Tuesday, October 6th

Dumpling Ingredients:

- 1 lb Ground Pork (80/20 or 70/30 fat content works best)
- 1 tablespoon grated or finely chopped Ginger
- ½ to 1 cup chopped Chives or Green Onions
- 1 cup Chopped Mushrooms (shiitakes or button/crimini)
- Sesame Oil
- 1 tablespoon Soy Sauce
- 1 Egg
- ½ teaspoon salt
- 1 package of Round Dumpling Wrappers: These can be found in Asian & Specialty Grocery stores (Uwajimaya, Asian Family Market, H-Mart, Ballard Market) and are typically located in the refrigerated noodle section (*preferred brand in Twin Marquis, but any round wheat dumpling skin will work*).

Homemade Dumpling Sauce Ingredients:

- 2 teaspoons sugar
- 1 tablespoon rice vinegar or brown rice vinegar
- 2 tablespoons soy sauce

If you prefer to purchase dumpling sauce at the store:

- **Wei Chuan Dumpling Sauce** which comes in spicy & non spicy versions (both are great).
- **Lao Gan Ma Chili Crisp** is the preferred Chili Crisp if you like spice.

Filling Instructions:

1. WASH YOUR HANDS
2. You'll need a Knife & Cutting Board
3. Prepare a baking sheet or large plate with Wax Paper or Parchment Paper
4. Fill a large pot of water and place it on the stove. Do not turn on the burner yet!
5. Prepare a small bowl of water and a clean fork for each person participating.

The beauty of dumplings is that there are endless combinations. You can make them with ground pork, ground shrimp (ha gow), or even vegetarian. You can find different recipes for fillings online. I'll be honest, I don't work with a recipe when I make my filling, but rather work with a formula.

6. Start off with a large mixing bowl. Next, per 1 package of dumpling skins, I use 1lb of ground meat.

When making a pork and chive dumpling so we will be using ground pork- you want a high quality mix of either 80/20 or 70/30. You could use a lean mix, but I find it to be a little dry. I find that that higher fat content pork usually yields a juicier dumpling- since when it cooks, the fat liquefies.

7. Crack an egg into the bowl - this will be the base.
8. Grate ginger.
9. Cut scallions or chives.
10. Chop Mushrooms finely.
11. Add sesame oil and soy sauce (we use Pearl River Bridge Mushroom Dark Soy- but Kikkoman or any soy is fine).
12. Add salt and mix everything into the bowl well with the ground meat.



Folding Instructions:

So now we have the *filing*. Next we start folding, but before, grab a small bowl of water. The water is what we will use to seal the dumplings.

Fold 1: Half moon (pinch at top and seal)

Fold 2: Pleat (pinch at top and pleat)

Fold 3. Side Pleat (start at one end and move to another)

Cooking Instructions:

Boiling (6 minutes)

1. Fill a large pot with water (the same pot you would boil pasta in).
2. Salt the water the same way you would for normal pasta and bring the pot of water to a boil.
3. Once water comes to a boil, carefully drop 8-10 dumplings in to cook, stirring the water every 2-3 minutes.
4. When the dumplings rise to the top (typically 5-8 minutes), they are ready to eat. Make sure to give them 3-4 minutes to cool off.

Pan Fried (6-8 minutes)

1. To make pan fried dumplings, you will need a pan with a lid.
2. Heat pan to medium heat with a neutral oil (vegetable, canola).
3. Carefully place dumplings one by one, into the pan (don't crowd the pan)-- pan fry until the bottoms are brown, generally around 1 minute.
4. Add ½ cup of water to the pan and cover to steam until liquid is gone.
5. Once water is evaporated, continue frying for 2 minutes, until the bottom of the dumpling is crispy.

You can also steam your dumplings if you have a basket steamer!

Homemade Dumpling Sauce:

Mix everything together!

- Basic Soy Dumpling Sauce
- 2 Tablespoons Soy Sauce
- 1 Tablespoon rice vinegar (*I prefer brown rice if you can find it*)
- 1 shake of sesame oil
- 2 Teaspoons sugar
- Garlic, cilantro & ginger to taste

Homemade Dumpling Dough:

Mix everything together!

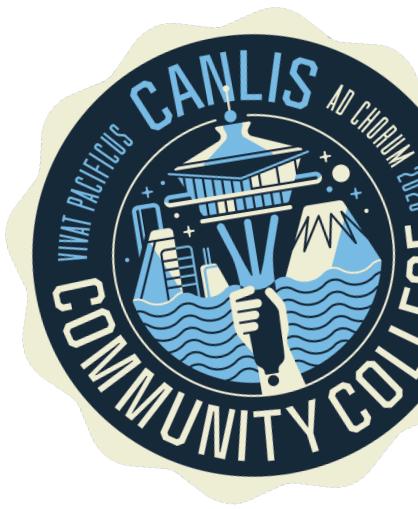
- 1 pound flour
- 3 finger pinch dry active yeast
- 1/2 teaspoon salt
- 1/2 teaspoon sugar
- 1 1/2 teaspoons of canola oil
- 1 cup of cold water plus a little more

Freezing Instructions:

I like to make tons of dumplings at a time and then freeze them to eat later. They have been a lifesaver if you just need a quick bite to tie you over. I love gifting premade frozen dumplings to friends with new babies, since they are so easy to heat up in a pinch.

To freeze:

1. Line your dumplings on a baking sheet or plate (make sure it fits in your freezer), single file with some space between each dumpling (so they don't stick).
2. Set a timer for 2 hours, and then transfer the frozen dumplings to an airtight large gallon ziploc bag.
3. Good for 3 months in the freezer if stored properly.
4. To cook, simply place them in boiling water and wait for the dumplings to rise to the top, generally about 10-12 minutes.





SAMISH BAY PACIFICS

Crassostrea gigas

Samish Bay is wedged at the confluence of the Straits of Juan de Fuca & Georgia. Peering out at the San Juan Islands, it is bracketed by the Northern Cascade Range, which surpasses 2000 ft elevation less than three miles inland. Glacier fed Samish River drains into a wind battered estuary, where it carves and reshapes the coastline every year. This extreme terrain begets extreme weather. Along with the churning mixture of nutrients, wind plays a significant factor in the growth and development of these oysters, slowing their growth, honing their shell, and exercising their muscle.

APPEARANCE

- 2.5 - 3+ inches.
- Narrower than South Sound Pacifics, with tight flutes concentrated towards the bill.
- Toady green with purple-black tips, and dense mounded shells.

FLAVOR

- Briny forefront. Driving, linear flavor.
- Bright green vegetables - green beans, fresh artichoke, nori, hints of melon.
- The meat is firm, plump, and crunchy, but less broad than a Totten. This is an oyster that works out a lot.
- The finish is rich like cultured butter, but clean and abrupt.



GROWING LOCATION

- On the west edge of the bay, Samish Island was connected to the mainland by a dike in early 20th century which funneled the Samish River discharge back into the heart of the bay. Combined with the extreme winds, this scraped the beaches of Samish Island down to the hard pan gravel base, giving the oysters firm ground to grow.
- River currents and wind action exercise the oysters and grind off excessive new growth.
- River sediment settles on the east (mountain) side of bay where we grow clams in the soft upper layer of marine mud and river discharge.



KUMAMOTO

Crassostrea sikamea



Our Kumamotos or "Kumos" are grown from mid-century, heirloom seeds rarely found outside of Chapman's Cove, WA. Their pure genetic line dates to the original Japanese imports from the late 1940s. Subsequent species mismanagement and inbreeding diluted the Kumo stock with stunted oysters and undesirable hybrids. In 1991, we discovered an area of heirloom Kumos and cultured the family lines at our hatchery. We farm the only purebred Kumos available. Our Kumo is a gentle, fulfilling oyster with remarkably consistent growth patterns. Their salted honeydew meat fills up deep cupped shells, brimming with sweet liquor.

APPEARANCE

- 1.5 - 2.5 inches Kumamoto | 2.5 - 3.0 inches Sumo Kumo
- Teardrop, aquamarine shells are hardened by the slow growing process.
- Consistently deep cups and petite flutes.

FLAVOR

- Firm fleshed with opulent texture, Kumos are a juicy, mouthwatering oyster.
- Subtle honeydew melon and sweet lime flavors complement a pleasant, salty-sweet liquor.



GROWING LOCATION

- Chapman's Cove is a warm, nutrient-rich lagoon in the South Puget Sound, reminiscent of the southern Japanese bays where Kumos originate.
- The shallow cove sits at the terminal end of the Puget Sound. The tides travel over 200 miles from the Pacific Coast. It encounters hundred of creeks & rivers on this journey, which decreases the salinity, cultivating a fruitier, algae medley.
- The oysters grow slowly over 3-4 years on gravelly beds.
- Once mature, the oysters are moved to fertile, deeper channels in the middle of the cove for fattening.





SHIGOKU

Crassostrea gigas

Shigokus are our most popular size of Tide Tumbled Pacific oysters. A lifelong pursuit perfected in 2009, the oysters are grown in spacious mesh bags, suspended 3 feet off the tidal floor. Each bag is fixed to a float, which rolls the oysters with the ebb and flow of the tide, flipping the bag twice a day. This motion conditions the oysters to grow smooth shells with deep cups. By floating at the top of the water column, the oysters feed on only the freshest algae, yielding a bright, savory flavor with plenty of briny liquor.

APPEARANCE

- 2.25 - 2.75 inches | Select Grading.
- Narrow, deep cupped shells that plummet near the hinge and taper off to the bill, creating soup spoon shape.
- Smooth, plaid shell pattern, with khaki, grey, & black stripes.

FLAVOR

- Clean, crisp bodied oysters with fresh flavors mirroring their micro algae diet.
- The meat is firm and plump, with a crunch from the powerful adductor muscle. A main course oyster with fresh green vegetable & seaweed flavors.
- Deep cupped shells hold an abundance of briny liquor.



GROWING LOCATIONS

- All Shigokus are grown in either Samish Bay or Willapa Bay. Both locations offer wide, shallow tidelands suited for Tide Tumbling. Their high tidal exchange of oceanic water gives the bays a higher salinity than South Puget Sound.
- Our Samish Bay farm is over 1,000 acres of shallow tideland. Pacific Ocean currents mix with glacial minerals from the Samish river and smaller creeks. Powerful wind jostles the oysters, and stir up nutrients from the tidal floor.
- Our Willapa Bay farm sits just behind the Long Beach Peninsula, with coastal Pacific tides mixing with the 13 rivers that feed the bay from the Willapa Hills.



Can(na)lis

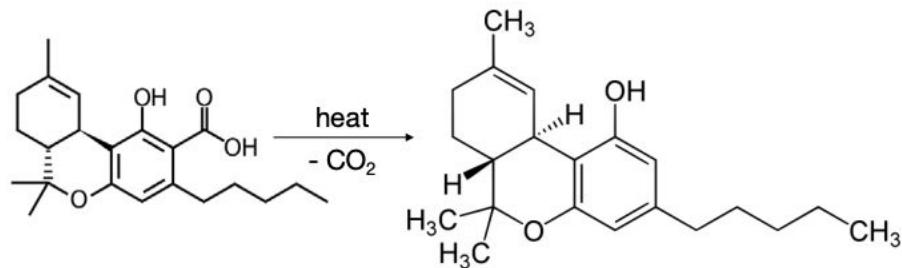
Jody & Brian in the kitchen

Pot Chocolate Chip Cookies

- Decarboxylation
- Making Pot Butter
- Avoid Edible Roulette

What is Decarboxylation?

Decarboxylation makes THC accessible to your endocannabinoid system (ECS).



What is Decarboxylation?

THE SCIENCE

Decarboxylation is the action of **using heat and/or pressure to remove a carboxyl group from the THCA molecule**, releasing CO₂. This turns THCA into THC, making it more bioavailable on the CB1 receptor of the ECS. Engagement of the CB1 receptor is associated with the typical effects of being “high”.

The **THC** molecule is **86.7%** of the weight of **THCA**, which means that your decarboxylated cannabis will be 13.3% lighter than before decarboxylation. In the oven, your cannabis will lose weight from water, some terpenes, and release CO₂.

Decarboxylation Steps:

1. Preheat oven to 225F
2. Roughly grind or break apart your favorite cannabis - you want it to look like the size of a grain of rice, not too fine or you risk burning.
3. Line baking sheet with aluminum foil (important to regulate heat with direct contact to pan)
4. Evenly spread the ground cannabis on the lined baking sheet - make sure the cannabis is very thinly spread for even decarboxylation
5. When the oven is preheated, place the cannabis baking sheet into the oven - middle rack.
6. Cook for 45 minutes, stirring every 10 min or so to avoid burning.
7. After 45 minutes, remove the baking sheet from the oven and allow to cool for 30 minutes.
8. The cannabis can now be transitioned to your infusion medium of choice or stored for future infusion..
(Butter is best!)



Heylo

How much THC will be in my decarbed cannabis?

Packaging should have the THCA and THC % available to you.

Use these numbers to calculate maximum (total) amount of THC after conversion:

- Total THC = $(0.88 \times \text{THCA}) + \text{THC}$
 - Example: Starting flower has 16% THCA, 1% THC
 - After Decarboxylation: Total THC = $(0.88 \times 16\%) + 1\% = 15.08\% \text{ THC}$
 - 1 gram of cannabis = 1000mg of cannabis.
 - How much THC is in my gram of decarbed flower? $(15.08\% \times 1000\text{mg}) \div 100 = \text{THC}$
 - **At 15.08% THC, 1 gram of this decarboxylated cannabis would have 150.8mg of THC**
 - **Multiply THC/gram by # of grams infused**

Making a ‘Mother Butter’ - How much THC is in my 1lb (4 sticks) of butter?

- In our example, we purchased 7g (or a “Quarter”) of our favorite cannabis
- THC from prior slide is 150.8 mg per gram
- Our decarbed cannabis is $150\text{mg THC} \times 7\text{g} = 1050\text{mg}$
- If we infuse our 1lb (32 Tablespoons) of butter with 7g decarbed cannabis = appx. 33mg/tablespoon of butter

Next up, Recipe for Infusion!

Recipe for Infusion:

1. Melt your 1lb of butter in a crock pot by turning it to high.
2. Once your butter is melted, add 7g of your decarbed cannabis flower.
3. Use a thermometer to make sure the temperature stays between 175-200F. -
(It's key for temp to remain below 200)
4. Stir every 20 minutes.
5. After 1.5 hours, the crockpot can be set all the way to low and no need to worry
about the temperature anymore.
6. Stir every 30min.
7. After 3 full hours, your butter is now infused with 33mg/tablespoon (1050mg
total) of THC and ready to use!

How much cannabutter do I add to my recipe?

Example:

Chocolate Chip Cookies

Yield = 34 cookies

THC per cookie = 5mg THC; therefore we want 170mg THC

TBSP = 33mg THC so we will need 5.15 TBSP of our pot butter to include in recipe

Time to Make Cookies! (yield = 34 cookies)

Ingredients:

AP Flour	3 ½ C (473 g)
Baking Soda	⅓ T (5g)
Baking Powder	⅓ T (5g)
Kosher Salt	¾ T (10g)
Vanilla Extract	1 ½ t (6g)
Butter	17 T(1 C) (283g)
Cannabutter	subset of butter
Brown Sugar	1 ½ C (330g)
Granulated Sugar	1 C (200g)
Eggs, Large	2 ea
Dark Chocolate Chips	1 ¼ C (225g)
Milk Chocolate Chips	1 C (180g)

Preheat oven to 350°F

- Cream sugars and butters for 6 minutes on medium speed.
- Whisk all dry ingredients together and keep separate.
- Incorporate one egg at a time into creamed butter and sugar
- Add vanilla extract
- Turn speed down and incorporate the dry ingredients in 3 parts until homogenous
- Fold in both chocolate chips at the end, avoid over mixing
- Scoop into 3T balls and bake at 350°F for 18-20 minutes, rotating half way through bake



Heylo

Using off-the-shelf Tinctures for baking (vs butter)

Dosing cannabis oils for edibles

1. Use a tincture of Distillate or RSO oil: Why? It's already "decarboxylated"!
 - a. NOTE: wax, concentrates, shatters etc. are mostly not decarbed - this happens when you smoke or heat them. You can decarb these items, but it's a few extra steps.
2. In WA state, tinctures are dosed to 100mg THC. This makes things easy. Yay!
3. If you are dosing 34 cookies, as in our recipe, each cookie would have 2.9mg THC.
 - a. Note: offset the amount of fat (butter) with Tincture - typically a TBLS or so.
4. We like "low and slow" as it can take 30-90 minutes for the effect. We recommend 5mg or less for rookies - and honestly, if you want multiple cookies, go light!
5. Don't be tempted by the endless loop of eat cookie, wait, eat another cookie, get high, get munchies, eat another cookie. No es bueno.