Growing Wild

KELLY ANN NICKERSON: OK, it is 6 o'clock on the nose, so I'm going to go ahead and begin tonight's webinar to WSU Global Campus. My name's Kelly Ann Nickerson. And I actually am a WSU alumni, so this is extra special for me to be able to provide this class for you guys tonight.

So I'm here in Anacortes, Washington, across the state from you maybe. I'm sure the majority of you are in Pullman in Eastern Washington. So tonight's class is going to be a different area, but I think you'll find it very interesting as we dive in to my five favorite local healing herbs.

Oh, yeah, this was in Pensacola. Yes, so my five favorite local are healing herbs, which is hard to pare down to five. I really have a lot of favorites because there's a lot of medicinal plants everywhere I look. I can see outside my window right now.

So I studied herbal sciences at Bastyr University in Kenmore, Washington, just north of Seattle. And then I studied horticulture at WSU here in Mt. Vernon in Northwest Washington and studied dried beans and school garden curriculum development. But never stopped learning about the medicinal herbs, the healing herbs.

So when I talk about the Pacific Northwest region, I'm talking about this square here. I'm talking about the Northern Pacific coastal region. It reaches all the way north to Prince William Sound in Alaska and all the way south to Oregon in the Oregon coast range and goes east to the Cascades in the coastal mountains above. So that's what we're covering tonight. It's a fascinating region.

There are plants in our region that grow outside of the region, but they reached a potential here because of our climate. So they're the biggest trees and the most luscious versions of these plants. So I really didn't have to go very far to continue my studies of herbal medicine since I was born and raised here. I stuck around because of that. And I did forget to mention a little housekeeping.

If you have a question throughout tonight's class, feel free to type it in the group chat. I do ask if you keep your microphones off just so that everyone can hear my voice and my voice only. But feel free to type it in the group chat. Since there's not a ton of you, I might be able to get your questions throughout class tonight. But if I can't get to them while I'm giving you this 45-minute presentation, I will get to them in the last 15 minutes.

OK, so let's dive into herb numero uno, Yerba Buena. This is also known as wild mint. Satureja douglasii. That's the genus and the species.

Those are Latin terms-- genus and species. That's me holding it because it's one of my favorite plants, but Yerba Buena is actually in the mint family, and it grows wild in our woodlands. I
always get overwhelmed with joy when I see this plant because it's so cute, and it smells very familiar. It smells like mint teas that we love-- peppermint, spearmint.

It's just a pleasant smelling herb, and it doesn't require any care. It's growing wild in the woods. Satureja is a term that describes its culinary uses. And that's why I really do like the genus and species of the plant names. Even though it is a little bit intimidating to try to pronounce those words, those Latin words, it tells you a lot about the plant.

So Satureja-- if I knew nothing else about this and I was just looking it up out in the wilderness, I could potentially make the connection that it's a culinary herb, and that it's safe. So don't be intimidated. Try to embrace the genus and species of each plant because it will tell you something about the plant. Yerba Buena, its common name, means good plant, and that's because it smells so good.

Common names too are also a little bit-- they can be misleading because they are common names. Somebody else talking about Satureja in a different region might have a different common name for it. And if you're trying to get on the same page with somebody, you might not even be talking about the same plant if you're only using its common name. So that's something to keep in mind. It's important to know the genus and species.

OK, so the botany-- I cover the botany of each of the plants tonight. It's really important to correctly identify your plants, or else you might do some damage. So Yerba Buena is going to be crawling on the forest floor. It's almost hard to identify. It's hard to actually notice it.

So hopefully, after this class, you'll take notice of wild plants and, therefore, have a caring about the plants. That is my whole goal with teaching about herbal medicine. But since it's in the mint family, it has characteristics as the mint family, such as the square stem. If you have rosemary, lavender, peppermint, or spearmint growing in your backyard in your garden or in a friend's garden or at school, I challenge you to take a look at the stem.

And notice that it's square. It's not circular like most stems. It's actually square, so it's one identifying feature of the lamiaceae, or the mint family.

OK, so I have a diagram of the flower because it shows the typical mint flower. It actually has five petals, but it looks only like two. They're fused.

They're all completely fused together. The top two are fused towards the top, and then the three petals down below are fused together. But it's actually one big petal, but botanically, it's five petals, and all mint plants are the same.

Here in Anacortes on Fidalgo Island in Northwest Washington, the rosemary plants are flowering, mint family plant. And you can check it out take your little loupe-- it's a microscope. Take your little hand microscope and look. You'll see it's very beautiful.
And that's how botanists group plants together is through their flowers. The flowers are going to be the same except for in size and color. It varies.

But the stamens and the pistils and the petals-- they're all going to be the same. And then when we're looking at the leaves, they're opposite. So as you can see in my picture of the Yerba Buena, there are a couple of leaves that have fallen off just from wear and tear out in the wild. See my mouse-- do you see my mouse, I wonder? I have it over the leaves right now. Those are opposite.

So it's actually one leaf-- good, you can see it. Thank you, Melissa-- one leaf is connected to the stem and directly across from it is the opposite leaf. So that's what we call an opposite leaved plant.

These are botanical terms, which if you're going to be going out in the wild and trying to use your field guide, which I love this book. This book is my go-to. And there's a reference for it towards the end of our presentation. If you're good at trying to look for plants in the wild, you do want to know the language-- really start to learn the language.

There's a lot to learn with all of this. So just dive into it like you're doing right now. So good for you coming to class. And welcome to those folks who just arrived.

Yeah, so the leaves the opposite, and you'll know it's Yerba Buena if you have all of these other features and then you rub the leaf, and it smells like mint-- strong, aromatic, menthol aroma. It's a tricky little guy because it grows right next to another plant that's not it, and it looks almost identical. But you can always tell the difference between the two because Yerba Buena's leaves smell very aromatic, and the other one has no smell. I believe the trailing honeysuckle that's growing next to it is tricky, though.

All right, so that's the botany and then some preparations you can use. So we're talking about healing herbs tonight. This is a healing herb. I love to prepare this as a tea-- just a very simple mint tea.

And I don't like to overharvest anything because I want the land to continue to flourish. That just only makes sense. So when I harvest, I never harvest too much just a little handful because I only harvest enough for me to go home and make a pot of mint tea. But since I don't harvest very much, I'll usually do half and half or 1 to 1 ratios of Yerba Buena leaves and regular peppermint or spearmint.

Peppermint is a very overpowering herb. So spearmint is less overpowering. If you really want to get that flavor of Yerba Buena - [it gives a distinctive?] mint taste. That's just something to keep in mind-- don't overharvest. Use your street smarts with that.
And I would love to talk more about sustainable harvesting. We just don't have a whole lot of time for this 45-minute class. But just when you're harvesting, make it look like you were never there harvesting.

So pack up the moss and see the moss growing. It's on the forest floor there. So for Melissa, she's an ethnobotanist interested student and ethnobotanically, which is the study of people and plants in their context.

So the Native Americans in the Northwest region used Yerba Buena often as a tea for colds, and they would use it in combination with the seeds of the Lomatium plant-- a very powerful antiviral plant in the carrot family that grows on the coastal region here. They would pair the two. So that's really interesting. I love learning about the ways that they've been used traditionally, these plants. Often, science proves that the traditional uses have merit, and that's even cooler.

In the book The Plants of the Pacific Northwest Coast, which I referenced toward the end, does a lot of intertwining ethnobotanical uses of plants, so it's a great book for those who are interested in ethnobotany. And [INAUDIBLE] sure you can use Yerba Buena leaves for his bath. So you brew up a nice strong brew, and then you strain out the leaves from the water. And you pour it into your bath. It's a nice opening.

It opens up your lungs and can be nice if you have sinus junk or gunk, and you need just an opening, healing aromatic bath. I wouldn't recommend doing the one to one ratio of peppermint of Yerba Buena in this one because peppermint in the bath actually makes you really cold. So it's too high menthol whereas Yerba Buena is a nice happy medium, and you can just use a few leaves or a few stems for your bath here.

So it's highly essential oils, therefore, it's a carminative herb. Going back to the tea, you can use it if you have gas and bloating, the medicinal use. And a calm carminative herb, all of them in plants are in this category they're really helpful for reducing bloating and gas by affecting the smooth muscles in your digestive tract. So they actually relax the smooth muscles and allow for gas to come up and out. So sometimes medicine that make you burp or toot, but that's part of healing.

Any questions so far? We're going to move on to Yerba Buena. Go ahead and type them in. I see someone says that bath sounds nice. I'm assuming that's what you're talking about. It is.

Oh, bullet whip kelp, Nereocystis luetkeana. Let's keep rolling through because we have 30 minutes now to get through three plants. So we'll do 10 minutes per plant.

OK, so this is a kelp forest growing in the Pacific Northwest Salish Sea. Nereocystis luetkeana is in the laminariaceae family. It's a mouthful.
And just you know any word that ends in aca-- you can see there -aca-- is referring to a family, whether it's animals or plants, aca is talking about the family of the plants or of animals. The laminariaceae are the kelp family-- the big brown algae seaweeds. You guys over there in Pullman don't have the ocean. But I recommend coming over here. I know Nicole's been here-- well, anyways.

But next time you're over here and you're hiking around and you're on a ledge, you can look down into the Puget Sound, and you might see these bobbing up and down-- these bull whip kelps. They're very, very pretty, so nereocystis is Greek for mermaid's bladder. And that's what it's allowing these kelps to float is the bulb on top.

So let's go to the next slide, and I'll show you little closer about the bulbs there. The bulbs are full of carbon monoxide, and they float at the surface of the Salish sea, which is necessary because the leaves that are hanging off there are photosynthetic. So they have to be up near where the sun is. And the stripe that you see above water-- and my mouse is on there right now-- that's connected to the ocean floor.

So it's called the stipe, but you can think of it as a stem of the plant. So the stipes are connected to the bottom of the ocean floor by a hold fast. And this is what it kind of looks like. The hold fast grabs onto a rock.

And despite what you might have thought, I remember being surprised when I learned this that seaweeds are all connected to the ocean floor. But since the leaves are photosynthetic, they can't stay down there when the tide comes. And these stipes can actually get up to 118 or 20 feet long. So they do go out a ways. They need help catching that sun.

On the leaves or the sori, which are the reproductive patches. They develop on the leaves dark patches. That's pretty interesting. They're patches that release themselves from the leaves and drop to the ocean floor and regrow. So that's how they reproduce.

OK, so here I am with bullwhip kelp harvest. So we harvest the leaves for food and medicine. One of the main constituents or chemicals in the bullet kelp and in a lot of seaweeds-- all seaweeds, actually-- is the iodine. So most dried seaweeds provide your recommended daily allowance of iodine just with having three to five grams of seaweed.

The lowest amount of iodine containing seaweed is Nori. Nori is the seaweed that makes up sushi wraps-- still very, very healthy, very nutrient dense, but just in the spectrum of iodine, it's the lowest. Bullet kelp has a lot of it. It's high in potassium, an essential mineral we all need.

And if you're craving salt, like potato chip salt, you might be low in potassium. Potassium is one of those plant constituents that you really need to-- what is it called? Oh, phytonutrients. So eating a diet rich in fruits and vegetables and seaweed will provide you with the array of vitamins and minerals that your body really desperately needs from optimal health. And potassium can take you to the hospital if you're very low in it.
Also, good amounts of sodium, calcium, magnesium-- sodium and calcium are the minerals that our muscles use to function. So that includes our heart. So we want to take good care and make sure we get a lot of minerals in our diet. And seaweed is a great way to do that.

Out of curiosity, Melissa asks, at what depth do you find the bullet kelp? In other words, how tall do they get? About 120 feet-- so they can get very tall and good thing because the stipes or the stems can actually be eaten as food.

Here we have some bullet kelp pickles-- kind of funny looking but they're actually really good. I've made them and put them on pizzas or just snacked on them. You just mix them with apple cider vinegar and garlic and coriander and ginger whatever spices you really want and pickling spices.

But they're very, very nutritious. But I will admit my most favorite preparation of bullet kelp is using the leaves. They're harvested like you saw in the picture earlier, hung to dry, and then powdered. And it makes it an excellent salt substitute.

Like we just talked, it's very high in minerals. So it makes it very nutritious and a wide spectrum mineral salt substitute, just delicious. You can put it on anything you would actually salt, but it brings out the flavor of soups, smoothies, and it's really good on buttered toast, just a really quick way to get your bullet kelp in.

And medicinally, since it has all that iodine, it's really good for our thyroids. If you have hyper or hypothyroid, it can modulate that, and minerals help with a lot of nerve issues of your high end anxiety, if you have trouble sleeping. Your nerves might be frayed and not be getting the minerals they need.

So the magnesium and the minerals will just be healing for your nervous system. If you have fibromyalgia, you might want to nourish you nervous system-- lots of really good uses for bullet kelp as a food. I love it as a food.

It the drying process for powdering the bowl of kelp leaves a long process? Yeah, it's kind of a long process, especially in the Pacific Northwest when drying outside can easily lead to rehydrating the leaves. So here I am on Walden island with my mentor Dr. Ryan Drum. He's a commercial seaweed harvester, and he's a commercial herb harvester. So we would let it be outside for about two days, and hopefully, that was all sun.

And then we would bring it inside, let it dry for another couple days in a 90-degree room, so it does take about a week, actually. And then Dr. Drum, he does a very tedious, laborious process of putting those dried leaves that shrink up to 1/10 of their size in a flour mill, a hand-crank flour mill. Then he powders it by hand with a flour mill, so it is a long process. But I do have his website on the reference sheet at the end. It's the most high quality kelp powder to order it through him.
Yeah, it's supposed to be bright green if you do see it at the grocery store, bright green. You just have to be careful because it's so high in minerals that it will absorb water moisture quite readily. So you just want to be careful of your source. All right, thank you, Skyla, for that question.

Moving on to a really lovely tree that I'm sure is growing in Pullman, maybe even in Florida and because it's a really nice hedgerow tree. This is a large tree. It was never pruned back, but it does it grows into a tree. But it can be a really nice hedge as well.

Crataegus monogyna-- I added Hawthorne in here because I love it and also because it's now spring. And the flowers have not bloomed yet-- so a chance for you to get out and look for this tree and greet it when it first starts to bloom. All right, so here is it beautiful flowers. It's in the rose family-- the rosaceaeas.

Actually, I'm getting ahead of myself, but let's talk about the etymology of it. Crataegus, its genus, it's derived from the Greek kratos, meaning strength.

So the wood of this plant is really hardy. And monogyna, the species, this is referring to the fruit. It has one big seed versus more than one seed. So this is the species that I harvest because it's just around where I am, but we do have others, such as douglasii, that have a different look to them, but we're focusing on monogyna tonight. There is its fruits.

There's one seed in there. So we can identify this plant in many ways, but one thing that you'll notice when you're harvesting this plant is that it has thorns like roses do. Remember, it's in the rose family, so it has thorns that really dig in. My husband just pruned a Hawthorne tree down the road-- actually, three of them-- and he didn't wear gloves.

And he really felt like they put some toxin in his body. He just felt really [INAUDIBLE] the prick. He had a lot of them, though. So if I were you, maybe wear gloves or just be careful to not get pricked by the thorns. It can actually be irritating.

He was very irritated by them. It didn't give him a rash or anything, but his hands felt and his arms felt really weird. So that's interesting to note. The flowers-- I'm going to go back to the slide with the flowers-- the flowers are your typical rose flowers.

Remember I told you how botanists grew plants together by their flowers? Well, this is the same here. We have your typical rose flower that has five petals, numerous stamen. And you can see that. I'll go back.

The fruits resemble tiny apples, don't they? And they actually smell like little apples. They're in the rose family. Apple is also in the rose family.
This species monogyna has one single large seed, so it is kind of it's a challenge to process the berries because it has a big seed in it, just note that. But the flesh is soft, and the leaves there are alternate and deeply low. You can see the leaves. They look like tiny oak leaves.

So do you eat the berries or fruit? Yes, you can. They're definitely edible, but you do have to process them. So tea is really nice with these berries.

You could nibble on the berry, but you'll notice the big seed in there are a few little seeds depending on species. But they are safe to eat and nutritious, but they're very small with very little flesh. They're not going to sustain you. But they are medicinal, and I can talk about how we can prepare them.

So the herbal actions of Hawthorne-- they are abundant. The leaves, flowers, and fruit are all used. [INAUDIBLE]. Some herbalists would say that all three need to be used together in one preparation. However, I've found that they're effective with the leaves and flowers on its own, and the berries on its own.

Nothing wrong with combining them. I do that. But in the spring, the leaves and flowers are ready to go, and in the fall, the fruits are ready to go. They're not ready at the same time. I just use them as they come on. The actions are that they are very astringent-- that is due to the tannins.

The tannins you'll find in all rose family plants. Tannins are going to be really tonifying to your organs. Tannins bind proteins together. We're going to talk about tannins more when we get to the roses. But the highlight of this herb is the fact that it is a hugely wonderful heart tonic, a cardio tonic.

It's high in flavonoids, which you can see in the colorful leaves and berries, and even the flowers. They're high in flavonoids. Flavonoids have gotten a lot of press because they are known to strengthen the walls of the cardiovascular system. And that's good, because heart disease-- which is caused by clogged arteries-- is the number one cause of death in the United States.

So we really want to have herbs in our lives that are going to heal our cardiovascular system and our heart. It's a specific remedy for cardiovascular disease-- the leaves, flowers, and fruits. Folks who actually have cardiovascular disease have shown that they can reduce their medication by taking regular hawthorn tea or capsules.

So it's been shown to specifically strengthen the heart. It specifically strengthens the muscles of the heart. Now I'm giving medical terms here, and I just have a disclaimer that it's really wonderful to try herbs and get to know your body and discover what these herbs do for you.
But talk with somebody one to one if you're going to go off your medication to take Hawthorne, et cetera. Be wise about this. But it actually strengthens the heart of the muscles, the muscles of the heart, and makes irregular heartbeats regular.

It's a very powerful and very direct heart medicine. It reduces the blood pressure, too, so it can actually be relaxing. That's called a vasodilator. I just like to take this plant as an herbal tea.

The leaves and the flowers make a very delicious cold infusion, where I just let the leaves-- dried leaves and flowers-- sit-in a quart of water overnight in my refrigerator and strain it the next morning, and drink this very nourishing heart preventative of heart disease tonic.

It's yummy. It's sweet-- it's just a sweet herb. I recommend getting hawthorn in your life. And for the question about the berries, the berries make a really nice chutney, but you do have to separate the flesh from the seeds. So you can cook them down.

I've made a ketchup out of it-- basically like a dipping sauce, with ketchup spices and tomatoes and the hawthorn berries. It's a really delicious way to get your hawthorn berries in. You could just decoct them on the stove, those berries dried, or fresh.

Decoct them, which is a simmering tea, simmer over the stove. So, there's multiple ways to use hawthorn, and it's a really nice medicinal plant. We're moving on. We're staying on track.

This is good. Oh, look at that beautiful rose! This is a wild rose. This is nutkana rose. Rosa nutkana, and there's another rose, Rosa gymnocarpa. Of course, this is in the rose family. Here I have some smaller roses. These are the Baltic roses-- or dwarf rose-- in my hand.

This was from San Juan Island. The San Juan Islands are actually coated in wild rose. It's really fun. So, the botany of wild rose-- it has the typical rose family features. Here you see very clearly the five petals. These ones are pink, and you see the numerous stamens.

There's hips. The rose fruits are called hips. And those hips are red to orange. Inside, they have seeds that have hairs on them that are barbed. I don't recommend popping a whole hip in your mouth, because when you chew it up the hairs on the seeds will scratch your throat. So even though they are edible, safe, you have to process them, just like you do with the hawthorn berries.

In fact, Nicole has done this with me once. So the leaves here, they're not just a single leaf. I'm going to go around and show you. This is botanically considered one leaf, this whole set here. So this is a compound leaf, and it's pinnately compound. It's in the shape of a pinnate, kind of a shape of a feather. Hard to tell right here, but it's in the shape of a feather, and it's pinnate.

Those leaves are nice and toothed. They're actually double toothed. So you have these big teeth, and then teeny tiny teeth, little baby teeth. Any questions so far, go ahead and throw them up there.
Wild rose herbal actions-- number one, yummy herbal action is the aromatherapy. The essential oils and the flowers are very prized. They have been long used in perfume for thousands and thousands of years. But I do want you to take mental note that it takes a lot of rose petals to make the essential oil.

If you've ever tried to purchase the essential oil straight up, not diluted, it's super expensive. To give you an idea, it takes one ton of the fresh-- one ton. That's a lot of fresh petals-- multiple truckloads full-- to make one ounce of essential oil. Essential oil is one of those things-- it's really lovely. But it is a very concentrated form of the plant. Just remember that.

Rose is the family of the heart. Not only is rose going to be emotionally healing to the heart, like if you are going through something or you're needing to have a hard conversation with somebody. Having a herbal tea of rose petals to share with that person, or just to sit with can be really healing to the heart, emotionally.

But it's also physically healing to the heart. It is another cardio tonic, a heart tonic. It's another vaso-tonic, so just like hawthorn, it's healing to the cardiovascular system. And it's a hypotensive, which means it reduces the blood pressure. So similar to hawthorn, but hawthorn has the very specific heart muscle action, whereas wild rose is a little softer and gentler, even though hawthorn is gentle as well.

I think of rose as a more relaxing plant. I love to have this tea in times where I need some grounding. It just smells so good. And when you pour the hot water over the petals, just allow the essential oils to evaporate up and out, and immediately drop your shoulders back and take it all in.

Skyler asks, would the hawthorn pair with a wild rose in a tea, then? You took the words right out of my mouth. I was actually just going to say that. I love pairing those two. I do have an herbal tea line, and I combine the hawthorn leaves, flowers, and the organic damask rose with those. I also add in hibiscus, so it's a really nice herbal tea blend for healing the heart.

So, yes. And doing it all wild would really be fun. There are tannins in this plant, too. Tannins are always found in the rose family, for the most part. If you think about how tannins work, back in the day when they would tan hides of animals, that bound the protein together. So that it made the hide.

Well, it does the same thing internally when we take tannins in. It binds proteins. So I think of needing tannins if you have diarrhea-- that means the mucous membranes in your digestive tract are taking in water. You need to bind those proteins together. Tannins can be nice. We'll talk more about that with the nettles, too.

Melissa asks, would you put in any kind of acidic fruit to cut through the floral flavor? Good question. Now we're getting into herbal tea blending techniques, which is really fun and part of
why I love to make herbal teas. I love to do the hibiscus flower with the rose and the hawthorn. It balances out the floral flavors.

You guys are already on it. I feel like you guys are asking such great questions. So yes, acidic fruit. I would just use hibiscus, it tastes acidic. Let me know if that answered your question. That's rose.

Then, my favorite herb. Stinging nettles, Urtica lyalii. This is in the Urticaceae family. Urtica comes from urticaria, and urticaria means hives. Has anyone-- raise your hand, on the participant note-- if you've ever been stung by stinging nettles.

I have. I grew up here on Fadago Island, in the outer city limits where it was forest all around. The stinging nettles love the forest edge, and in the forest understory. But I was stung really bad one time, and it really was not fun.

So I have a love-hate relationship with stinging nettles. They certainly got my attention. But now that I've studied stinging nettles more and more, that sting can actually be healing. We'll talk about that. Looks like most of you have been stung before. That's good. It means you're getting out and experiencing the wildlife.

Of course, the key identifier of stinging nettles is the stinging hair, known as a tricomb. Here's a microscopic view of the tricomb. Very vicious looking. It's filled with fluid that injects into your skin. The leaves are simple, not compound like the rose. It's just one leaf. It's opposite.

Here is an opposite leaf. And it's desiccate, so it goes on the other side 90 degrees, and up the stem it goes opposite and desiccate. The leaves' margins are serrate, or toothed. You can kind of see that here. And they grow from an underground rhizomes. A rhizome is an underground stem that is under the ground and then it pops up.

So where do you find nettles? Nettles love rich soil. These little guys, they're living under the mulch of dead leaves, very nitrogen rich. They love meadows, stream banks, open forests. They actually like disturbed areas, like roadsides. So, that's kind of cool. It can grow in diverse locations. They're not consistently in the forest. They like meadows where cows have pooped, lots of nitrogen-- you don't really want to harvest there. But you get the idea.

They're very locally abundant. They love the rainfall we get. This is one of those plants that I can harvest in abundance and not destroy the stand of nettles, because they grow in abundance. We eat them like a pot herb, so we could actually have a pot full of them and we'd be OK. That's good news for us.

This looks like a laundry list of constituents in the stinging nettle, but I do want to point out-- the leaves are so nutrient dense. Since this is my favorite plant, people ask me, what do you use stinging nettle for, Kelly?
I really use them as a food. I love them for their nutrition. In the kitchen, you can use them like you would spinach in recipes that you would cook. We'll talk about how to avoid the stinging hairs in a minute. They're really high in iron. Folks who are anemic really see great results with getting stinging nettle in their diet.

They're high in magnesium, calcium, high in vitamins. They have free amino acids. Amino acids make up proteins, but what's cool about the free amino acid flowing in the stinging nettle is that we use proteins in our bodies. But since they're in the free amino acid form, our body can take in and digest the amino acids and utilize them as needed.

So they're not already packaged in a protein-- our body can take them as building blocks and strengthen our hair and nails and skin, and use those amino acids as our body needs them. That's really neat. They're high-end dietary fiber-- this is an ethanol botany thing.

The fiber of nettles was used to-- it's so high in fiber that it was used to make cordage. It grows really well and it was used to make nets and ship sails. It was really an important fiber for the Native Americans. How would you safely harvest these, Melissa asked. I know when I've tried to harvest those little buggers almost seem to jump at me.

Now when you're harvesting these, I wear gloves. [INAUDIBLE] with a [? nitro ?] or plastic covering on the front. So just use gloves. You can have scissors, too, so you have your gloves on and your scissors, and you snip right underneath the leaves and it falls into your basket or bag. Wear pants like jeans. Don't wear shorts. That's how.

Then, the seeds of stinging nettles-- here's a picture of the seeds. The seeds are actually high in essential fatty acids. When you cook the seeds, you can get a nice little crunch when you eat them because they kind of pop with their essential fatty acids, like omega 3s.

They're really tasty. I like to saute up the seeds with a fried egg. It's a nice wild food. And then the trichomes here, those hairs-- they have a cocktail of acids in there. The one that really makes us say, ouch is the formic acid.

The formic acid is what the red ants have, that bite. So that's like the same sting. But they also have really good things in there. They have acetylcholine. Acetylcholine is used in most of the metabolic processes in our body. And it's a high end serotonin, which is the feel good neurotransmitter, and it has histamine.

This is where maybe you've heard stinging nettles are used for allergies, to prevent allergies. Because even though they're immune boosting, and a lot of other things, the histamine in there acts as an antihistamine. Like an immunization to histamine.

So when your body's flaring up from the seasonal allergies, if you have histamine in small doses through the nettles in your body already, your body is not going to react so dramatically. That's
where that comes from. So just a few other herbal actions. Astringent-- so again, not as astringent as the rose family, but there are tannins in the leaves.

And one way to get maximum nutrition from the leaves is to not extract the tannins, and that's done with the leaves that are dried. You do another cold infusion, just like I briefly mentioned with the hawthorn leaves and flowers. If you do a cold infusion of the leaves-- tannins are not soluble in cold water. Mostly hot water and vinegar, they're really soluble in.

If you want to avoid the tannins, just do a cold extract. That will allow for higher absorption of nutrients. Because tannins bind minerals. Therefore they're bound together, and you excrete them out, you don't absorb them. Nettles are a diuretic.

Mostly everything that's green is a diuretic, but nettles really does make you pee a lot, which is good to flush out your system. If you have urinary tract infections, if you're prone to them. Bringing antimicrobials through other herbs-- paired with nettles-- can actually bring the medicine to the urinary tract.

Also helpful for high blood pressure. So it's a hypotensive, and it's an nutritive. How would you prepare nettles? I hear they are strung up to dry, in bundles. That's one way to harvest them and dry them. And then, I strip them off the stem when they're dried, and put them in a sealed jar, and you have your dried leaves for tea.

You'll know that they're dry when the stem-- when you snap it-- it cracks. You want to do an efficient dry, or else those free amino acids will degrade, and the protein won't be as available. You'll know you've done an efficient job of drying if there's actually still a sting on those leaves when you've dried them properly.

Drying them is a great way to make a medicinal preparation. But looking at the nutritive preparations, if you cook the leaves you will break down that sting. So you won't get stung if you just cook them. Blanch them, saute them. Going back to drying-- Melissa asked, can you use a food dehydrator for that? You can. They are such large leaves though, that a food dehydrator, you won't really get much dried.

But yes, this is a perfect use for a bigger food dehydrator, or if you know somebody or if you want to build one. You have the shelving, so you can lay them out. Excellent use for that. Going back to cooking with herb, I had mentioned sauteing the seeds and enjoying them.

Then, you can also eat these leaves fresh. You say, what? Yes, you can. But you do have to puree them. So fresh leaves in smoothies, puree them really well to neutralize those stinging hairs. What's really interesting is that the leaves have a substance that neutralizes the trichomes when they co-mingle.

So all you really have to do is puree them up in a blender, or even in a food processor if you wanted to make nettle pesto, which is excellent. I'm famous for a stinging nettle cake. I'm
famous. The farmer's market folks love the stinging nettle cake. I blanch and puree them, and make a cake out of it. Very good.

And then medicinally, fresh or dried leaves in teas. If it's fresh, you want to chop it up really good, and then put it on your stove top and simmer it for just a couple minutes. It produces a really dark tea. The cold infusion I talked about will also produce a really nice dark brew. That's how you know it's done and ready. Super good.

That has been one of the go-tos for breastfeeding mothers, stinging nettles. So high in nutrients-- it's just very effective for bringing on milk for breastfeeding mothers. You can also tincture this plant fresh. Tincture is an alcohol extract. That will preserve the histamine and the chemicals in the trichomes, so that it will be effective for allergies and immune boosting.

So, acetract and oxymiel-- those are really underused words. Herbalists know what they are. I'll explain what it is. An acetract is a vinegar extract of the stinging nettles, or any plant really. But an acetract uses vinegar to extract out a constituent.

And that makes a yummy food-- not only a medicine, but you can use your herb infused vinegar in any recipe that you would use vinegar in. Oxymiel is a vinegar and honey extract of herbs. That's actually one of my favorite ways to extract out the fresh constituents of the stinging nettles. It's really yummy. Imagine the sweet and the acidic combined.

You can just take a spoonful of that as your daily medicine for immune boosting, your iron, allergy prevention. That's stinging nettle. That actually covers all five of our herbs.

Here are some of my resources for you guys. The "Plants of the Pacific Northwest Coast" book, and "The Medicinal Plants of the Pacific West", by Michael Moore. And "Old Man Seaweed", that's Ryan Drum, my mentor from Waldren Island. That's his website. He has some free articles. He's a retired researcher, so he has very scientific brain. He has really nice articles that he's written strictly about Northwest plants and some ethnomedical stuff, and botany, and medicinal.

Very medical terminology going on with him. But he's a clinical herbalist, so that makes sense. That's my contact information. If you are interested in receiving a copy of this PDF, I would be happy to send it to you. Feel free to ask any questions via email or check out my website if you want to try some of my teas, or look at the calendar for upcoming community classes I'm teaching.

The Pojar, McKinnon, "The Plants of the Pacific Northwest Coast", that is one of my absolute favorite books for hiking. What I like about it is that it has photographic pictures, not drawings. So it's accurate. Everyone has his own perspective when they're drawing, so I think really important that you have photos of the plants.
So I'd like to take the next five minutes to take any questions that I may have missed. Nettles do have a season. You guys are reading my mind. Nicole asked, do nettles have a season? Yes. Once they start flowering, the leaves are not quite as tender and scrumptious. And in fact, sometimes it can hurt your tummy because they have oxalic acids in them and that can build up. Some people don't do well with oxalic acids.

Personally, I can still eat the leaves once it flowers. It's up to the individual, but you'll notice it'll start to get long and scraggly once they start flowering. But then it's time for the seeds. After they flower, the seeds will come on, so then you can harvest the seeds. Then in the fall, they actually have a second sprouting.

They don't get near as vigorous, but they're still-- so they have two harvests, spring and fall. We have someone in the class tonight that is living in Anacortes. Cool. So the nettles just have a few months. I harvested some starting about early March. They're prime right now. Nicole asks, does hawthorn berry have any trees that look alike, that are not edible or dangerous?

No, not really, especially if you look at the flowers. The rose family is very safe, for the most part, except if you're talking about the seeds of apples. They have cyanogenic glycosides. But you have to eat an entire bucket of apple seeds, five-gallon bucket to feel the negative effects of that. So, no.

I would say that you're not going to come across a ton of dangerous plants. The most dangerous plant I can think of is the poison hemlock, which is a real bugger. Poison Hemlock is in the carrot family, and it is deathly poisonous. It grows out at of Washington Park, it grows in people's gardens, it's a real nuisance.

That's something to be aware of. Keep that in mind that not all plants are safe. And that's why I highly recommend having somebody show you, or you have a trusted reference, before harvesting and eating, and feeding your friends and family. But also embrace the wild plants. They want our attention, in a good way.

These are great questions. We have one more minute, anything else? I hope you guys enjoyed class tonight. I really enjoyed being here, so thank you so much. Feel free to email me and get on my list serve if you want to know what I'm up to in terms of teaching and what not. Thank you so much.