

Fish of the future?

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Half a mile off the shore of Kona, Hawaii, in blue waters 200 feet deep with currents that can range over 2 knots, a type of amberjack is being raised – one that hopes to buck the bad rap of many other farm-raised seafood.

And Kona Blue Water Farms of Hawaii, which began harvesting this fish late last year and selling it to San Francisco-area chefs, is betting consumers will bite.

In this day and age, when the seafood counter has turned into a precarious minefield of mercury, sustainability and environmental grenades, the new Kona Kampachi fish arrives on the mainland with considerable allure.
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A relative of Japanese hamachi or yellowtail, the silvery fish, known as kahala, is a species native to Hawaii. It is high in good-for-your-heart omega-3 fatty acids. It has undetectable amounts of mercury. The quality is such that it can be eaten not only cooked, but also raw in sushi or sashimi.

And it is being raised in a new type of fish farm, one that may offer hope for a better, cleaner aquaculture industry.

In the past, many fish farms took a beating from environmentalists. Salmon farms took the brunt. Generally located in relatively stagnant waters close to shore, salmon farms are susceptible to pollution and disease problems from the resulting buildup of fish waste products. But Kona Kampachi represents a new breed of "off-shore" farm, located much farther from land and in deep waters, where the pollution impact is lessened.

Unlike farmed Atlantic salmon, which is raised nowhere near its native area, Kona Kampachi (the trademarked name for the farm-raised fish) is being grown in the same waters where its wild counterpart swims. Because they are not genetically modified, any Kona Kampachi that accidentally escape – thousands did get loose when the farm first started up – would not dramatically alter the fish gene pool or ecosystem, says Mike Wink, chief executive officer of Kona Blue Water Farms, based in Holualoa.

With so many wild species depleted because of overfishing, offshore farms could potentially increase fish supplies without harming the environment.

Whether that holds true, though, remains to be seen.

"There's a large debate brewing about offshore fish farming because it's very much the future," says George Leonard, science manager for the Seafood Watch program at California's Monterey Bay Aquarium. "There are at least half a dozen fish – maybe more – being considered for offshore farming. We're reserving judgment on whether it's fully sustainable or not. Offshore farming is really, really new, so there's very little track record yet on environmental issues."

When it comes to Kona Kampachi's culinary record, though, there's little debate. San Francisco's swank Fifth Floor restaurant has been serving it off-and-on for a year. Executive Chef Melissa Perello likes to offer it tartare-style as an amuse bouche (a chef's gift preceding dinner) or seared atop a lobster-fingerling potato hash as an entree.

"It's a sweet flavored fish, and it's got nice consistency," Perello says.

"We don't use much farm-raised fish, but I like that this is raised in an ecological way."

At Tomisushi in San Jose, Calif., "kampachi" can be found on the menu most days.

Three shipments of the Hawaiian fish come in each week to the small Japanese restaurant. The alabaster flesh with hints of pale pinky-beige is offered as sushi or sashimi. With a fat content of 30 percent, the raw kampachi is mild yet ultra-rich tasting.

Owner Taka Ogawa also offers a dish featuring the head and collarbone – prized for the sweetest, most tender flesh. The pieces get sprinkled with Okinawan salt, then are grilled on high heat for five to 10 minutes until they get a nice, charred smokiness and a flaky, almost Mahi Mahi-like texture.

At Quattro restaurant in the new Four Seasons Hotel Silicon Valley in East Palo Alto, Executive Chef Alessandro Cartumini has been offering the fish as an occasional special.

"It's so buttery," he says. "When you cook it, it stays very moist. It doesn't dry out at all."

It also has almost 3 grams of omega-3 fatty acids per 100 grams of weight, even more than Atlantic mackerel, which has one of the highest fatty acid levels around (2.5 grams).

Kona Blue Water Farms is hoping to get the fish into California grocery stores. For now, it's a splurge to buy the fresh fish through mail-order at www.kona-kampachi.com. Whole fish (average weight of 4.7 pounds) is \$8.25 a pound; fillets (about one pound each) are \$17 a pound. Fed Ex two-day delivery adds about \$20.

Once the fish arrives, use one of the recipes shown here, peruse others on the Kona Kampachi Web site, or take a very simple route. For an easy raw preparation, slice the fillet into thin one- or two-inch long pieces, and enjoy with soy sauce, wasabi, and maybe a sprinkling of sliced green onions or radish sprouts. For a quick cooked dish, portion the fillet into serving sizes, then season with salt and pepper. Saute in a pan with a couple of tablespoons of olive oil or peanut oil on medium-high heat for six to eight minutes, flipping fillets once. The fish will develop a wonderful crisp exterior. Serve with a squeeze of lemon juice or soy sauce, tartar sauce, salsa or chutney.

Hawaii has a long history of aquaculture. Today, it boasts about 100 farms, raising everything from seaweed to abalone to moi (the fish once reserved only for Hawaiian royalty). One of the newest, Kona Blue Water Farms got its start five years ago when two Kona marine biologists tried to raise oysters for pearls, but soon turned their attention to amberjack.

It was the fish of choice because it spawns all-year-round, unlike many other species, Wink explains. That means fish can be harvested fresh throughout the year. Amberjack also grows well in a crowded environment, unlike other fish that tend to fight each other in captivity. And it grows relatively fast – six pounds in 12 months. Farmed salmon can take about 36 months to reach 10 to 12 pounds.

In the wild, large amberjack can develop ciguatera from eating other marine fish. A naturally occurring toxin that cannot be destroyed by cooking, ciguatera is poisonous to humans and can cause neurological problems.

Because Kona Blue Water Farms controls the feed of its farmed fish (keeping them on a diet of organic fish meal and fish oil), ciguatera is not a problem, Wink says. The fish, as well as the fish feed, are tested for mercury. Kona Kampachi also is tested for PCBs, a toxin that has been a concern in some farmed salmon. Kona Kampachi has registered undetectable levels of both mercury and PCBs, Wink says.

It takes 1.1 pounds of fish feed to grow 1 pound of Kona Kampachi, a ratio lower than that for some other farmed fish, Wink says. But some

scientists still are leery about the ecological cost of "reducing one edible fish supply to create another edible fish supply."

"You're using fish at the bottom of the feeding chain to feed farmed fish, and putting more pressure on supply," says Leonard of the Monterey aquarium. "You have to remember that wild fish and what they prey on plays a very important role in the balance of the ecosystem."

Kona Kampachi spawn in tanks on land. At 6 weeks old, the fish are put into submersible, steel frame–mesh net cages in deep, open water. They are harvested when they are less than a year old, 16–20 inches long, and five to seven pounds in weight.

Although fish waste has been a pollution issue with some farmed fish operations, that hasn't been the case with the Kona Kampachi, which are raised in such swift currents that any waste gets quickly diluted, Wink says. The Clean Water branch of the Hawaii State Department of Health, which monitors the farms' discharge levels, reports no problems.

The privately held, 30–employee company raised \$3.9 million for its initial financing, Wink says. Its chairman of the board and one of its main investors, Thomas McCloskey, is the former chairman of Horizon Organic Dairy, the world's largest organic dairy company.

By the end of this year, Kona Blue Water Farms expects to have six cages in the waters off the coast of Kona, stocked with 250,000 fish.

And all eyes are expected to be on them.

"Salmon farming came to be without a lot of scrutiny, and had a momentum of its own," says Jay Harlow, a Bay Area seafood expert and publisher of the Seafood Monitor, an online consumer newsletter. "This segment of the industry will be different from the beginning. I don't see offshore aquaculture getting under anyone's radar."

Kona Kampachi

What: Farm–raised, native Hawaiian fish

Health benefits: High in omega–3 fatty acids; undetectable levels of mercury and PCBs

Environment: Not genetically modified, so escaped fish won't change native population.

Where to find it

On the Web: Fresh whole fish and fillets can be purchased at kona-kampachi.com.

Whole fish (average weight of 4.7 pounds) is \$8.25 a pound; fillets (about 1 pound each) are \$17 a pound. Fed-Ex two-day delivery adds about \$20.

Basil Roasted Kona Kampachi with Chanterelle Mushrooms, Arugula and Tomato Salad

Serves 4

2 tablespoons olive oil
1 teaspoon chopped garlic
1 teaspoon chopped shallots
1 sprig fresh rosemary
1 sprig fresh thyme
8 ounces medium-size chanterelle mushrooms, washed and quartered

For fish:

3 tablespoons olive oil
8 4-ounce Kona Kampachi fillets (skin-on if possible)
8 thin slices lemon
8 basil leaves

For shallots:

1 tablespoon butter, at room temperature
8 small shallots, peeled
4 tablespoons pinot grigio
1 pinch granulated sugar
Salt and pepper to taste

For vegetables:

3 handfuls fresh arugula
1 handful thinly sliced red onion
2 ripe heirloom tomatoes, cored, cut into 6 wedges each Salt and pepper, to taste
3 tablespoons extra virgin olive oil
2 tablespoons white balsamic vinegar

For sauce:

4 tablespoons extra virgin olive oil
1 pinch freshly julienned basil

Preheat oven to 350 degrees. Heat olive oil in saute pan over medium heat.

Add garlic, shallots, rosemary and thyme. Add mushrooms and cook until soft, about 5 minutes. Remove from heat, strain mushrooms and reserve cooking liquid.

For fish, heat olive oil in non-stick saute pan over medium-high heat. Place fish, skin-side down, in pan; sear 2 minutes, then remove from pan.

Set on top of lemon and basil leaves in a baking tray. Bake about 8 minutes.

Meanwhile, heat butter in a saute pan. Add shallots, browning on all sides.

Add wine, pinch of sugar, and salt and pepper; cook over low heat until shallots are soft, about 20 minutes.

Remove shallots from pan and combine liquid in pan with reserved mushroom cooking liquid. Reserve.

To assemble: Place 2 shallots and 2 fish fillets on each plate. Mix warm mushrooms with arugula, red onion and tomatoes; season with salt and pepper, olive oil, and white balsamic vinegar. Place a little mound of salad on top of fillets.

In a small bowl, mix reserved cooking liquid from shallots and mushrooms with olive oil and basil. Drizzle around fish.

–From Executive Chef Alessandro Cartumini of Quattro restaurant in the Four Seasons Hotel Silicon Valley in East Palo Alto, Calif.

Hamachi with Sizzling Oil, Seaweed Salad and Ponzu Sauce
Serves 8

(This is an almost–raw preparation.)

For ponzu sauce:

1 tablespoon freshly squeezed lemon juice

1/4 cup soy sauce

1 teaspoon rice vinegar

For fish:

1 pound very fresh hamachi (yellowtail) or Kona Kampachi

1/2 cup olive oil

3 tablespoons sesame seeds, toasted and coarsely ground (see Note)

1 cup ocean seaweed salad (available in the refrigerator case at Asian or Japanese markets)

To make ponzu sauce, combine lemon juice, soy sauce and rice vinegar in bowl and mix well. Slice hamachi very thin and arrange in a circle on each plate.

Spoon ponzu sauce over fish. In small saucepan, heat olive oil over high heat until smoking hot but not burned. Spoon hot oil over fish. Sprinkle with sesame seeds. Garnish center of each plate with seaweed salad. Serve immediately.

Note: To toast sesame seeds, heat dry saute pan over high heat. Add seeds and toast, swirling pan often, about 2 minutes, until lightly golden in color. Remove from pan immediately and let cool before grinding in a spice grinder.

-From "The Hali'imaile General Store Cookbook" by Beverly Gannon (Ten Speed Press)

Kona Kampachi with Fingerline Potato Hash, Wild Ramps and Vinegar Gastrique

Executive Chef Melissa Perello of the Fifth Floor restaurant in San Francisco uses spring's assertively flavored ramps in this dish. If you can't find this wild onion or wild leek, which has a pungent garlicky-onion flavor, you can substitute scallions.

Serves 4

1 pound small fingerling potatoes, washed
Salt
4 ounces wild ramps OR scallions (white and green parts)
4 fillets (4 ounces each) skinless Kona Kampachi
White pepper
2 to 4 tablespoons clarified butter OR olive oil
4 ounces lobster meat, cooked and shelled (optional)
3 tablespoons Banyuls vinegar OR red wine vinegar
1 tablespoon honey
1 1/2 tablespoons butter, cut into small pieces

Slice fingerling potatoes into 1/4-inch slices, place in a 3-quart pot and cover with cold water. Add 2 tablespoons salt and bring potatoes to a boil; reduce to a simmer and cook until potatoes are very tender and break easily with a fork. Drain and cool potatoes on a baking sheet or large plate.

Trim roots from ramps (or scallions) and remove any loose outer layers.

Thoroughly rinse in cool water. Thinly slice ramps, including tender green tops, and reserve.

Season fish fillets with salt and white pepper. Heat large saute pan on medium-high heat and add enough clarified butter to cover bottom of pan.

Carefully add fillets, allowing about an inch of space between pieces. Lower heat to medium-low and allow fish to turn golden slowly. Flip fillets once they have achieved a light golden crust, about 4 to 5 minutes. Turn off heat under pan and allow fish to cook for an additional 1 to 2 minutes, depending on thickness of fillets.

Heat a separate saute pan on medium–high heat with enough clarified butter to coat pan. Lightly smash precooked potatoes with a fork and add them in small bits to the hot saute pan, covering base of the pan in an even layer.

Turn down heat to medium–low, and allow potatoes to turn golden slowly without stirring or shaking pan. Add sliced ramps and lobster pieces. Once potatoes have begun to brown and crisp up, gently break them up with a fork and toss lightly; season with salt and white pepper to taste.

To make gastrique, combine vinegar and honey in a small pot and simmer until liquid has reduced down to about 1 tablespoon and is the consistency of maple syrup. Slowly add butter, stirring constantly with a small whisk until emulsified; season with a pinch of salt.

To assemble dish, drizzle a spoonful of vinegar gastrique on each of 4 serving plates. Place a spoonful of the crisp potatoes and lobster on each plate, then arrange the fish over top.

–From Melissa Perello, executive chef of the Fifth Floor, San Francisco

Seared Fish in Warm Herb Vinaigrette
Serves 4

(This recipe originally called for halibut.)

For vinaigrette:

2 teaspoons Dijon mustard
Salt and freshly ground white pepper
3 tablespoons red wine vinegar
3 tablespoons sherry vinegar
1 cup grapeseed oil
Juice of 1/2 lemon

For fish:

1/2 teaspoon Dijon mustard
1 small shallot, finely diced
1 tablespoon grapeseed oil
4 4–ounce fish fillets (skin on, if possible) Salt and freshly ground white pepper
1/2 teaspoon chopped fresh tarragon
1 1/2 teaspoons chopped flat–leaf parsley
2 tablespoons chopped fresh chives
2 tablespoons chopped fresh chervil

To make vinaigrette: In mixing bowl, whisk together mustard, salt, pepper and vinegars. Whisking constantly, very slowly drizzle oil into mixture.

Whisk in lemon juice to taste. Store in refrigerator for up to 1 week.
Makes 1 1/3 cups.

To cook fish: Put mustard and shallot in mixing bowl and slowly whisk in 1 cup vinaigrette. (Reserve remaining vinaigrette for another use.) Transfer to small saucepan and set aside. Preheat oven to 350 degrees. Heat 1 tablespoon oil in large ovenproof non-stick frying pan. Season both sides of fish fillets with salt and pepper. Sear fillets for 1-2 minutes on each side, starting with skin side.

Place pan in preheated oven and cook fish 4-5 minutes more. Remove fish from oven when it has reached desired doneness.

Meanwhile, warm vinaigrette sauce over low heat; add chopped herbs at the last minute. Serve fish skin-side up. Sprinkle on a pinch of coarse salt and drizzle vinaigrette around the dish.

-Adapted from "Lumiere" (Ten Speed Press) by Rob Feenie