



BEYOND WHITE BUTTONS: HOW TO COOK MUSHROOMS IN A VARIETY OF WAYS

By Michelle Dudash, RDN



As a chef that's cooked professionally in restaurants, and at home as a recipe developer, I have been tinkering around with a variety of mushrooms in a wide range of applications for more than a decade. Everything from white button mushrooms (WBM) to shiitakes to oysters to maitakes to...mmm, my mouth is watering. Mushrooms add depth and the coveted savory umami taste that takes the flavor of a dish to the next level.

My everyday mushroom of choice is the crimini, otherwise known as baby bellas or baby portabellas. They're widely available at most grocery stores, budget friendly and work in almost any recipe. And let's not forget that mushrooms are a low-calorie, nutrient-dense vegetable. The added bonus in my house is that if I make a meatless meal with mushrooms, I can count on my husband enjoying it.

While I am clearly obsessed with mushrooms, not all consumers share the same sentiment. However, most consumers haven't ventured beyond the WBM. So what's a nutritionist to do? You "sell" them on taste and how a whole world of mushrooms exists beyond WBMs. Having some easy, delicious recipes for your clients to try also helps. Before embarking on your mushroom mission, it's important to understand some mushroom basics and discover what each variety offers.

Meet Your Mushroom Varieties

- **Crimini mushrooms** have a bit more intense mushroomy taste with a meatier texture than WBMs.
- **Portabella mushrooms** are the big, wide mushrooms that fit like a glove in burgers and other sandwiches. I like to

briefly marinate portabellas, as they soak up whatever flavor you add to them, such as reduced-sodium soy sauce or garlic.

- **Maitake mushrooms**, also known as Hen of the Woods, have a firm texture at the base, thinning out on top. They're typically seared in a blazing hot pan, taking on a rich, savory taste. Maitakes are making frequent appearances on Japanese restaurant menus and go great with Miso black cod or a grilled steak. Maitakes are typically served intact, looking like a flower of the deep forest, ready to be sliced into portions.
- **Enoki mushrooms** stand in their own category, appearing whimsical, spindly, with a delicate texture and mild taste. With their feathery feel, they are low maintenance, ready to sprinkle over salads, sandwiches and soups.
- **Oyster and shiitake mushrooms**, with their nice chew and woody- teetering-on-gamey flavor, get the glory in stir-fries. I love sautéing them in broth-based fish dishes, too, like sea bass. The stems are tough though so you'll want to trim those off, reserving them for mushroom broth.

Shake Things Up With *The Blend*

Any mushroom variety can be used in *The Blend*, which is accomplished by mixing finely chopped mushrooms with ground meat to create fresh versions of classics like burgers, meatloaf and meatballs. This technique helps replace some of the meat in recipes, reducing saturated fat and calories, while adding flavor depth. This is a good technique to use on people who are skeptical about eating mushrooms. I use this technique in my kitchen when preparing meatloaf and my kids never know. I created [this burger recipe](#) to showcase another delicious way to use *The Blend*.

Brew a Broth

Whatever you're preparing with mushrooms, be sure to save the stems and scraps to make mushroom broth. You'll save money and reduce food waste. Simply stockpile in the freezer until you have a quart size bagful or two. Homemade mushroom broth is liquid gold and you can use it in place of water to cook rice and as a means to add moisture to pasta dishes and stir-fries. Say hello to mushroom risotto! Now that we're in soup season, you can use mushroom broth in your favorite soups too.

Ho-Ho-Hen of the Woods

We're also in the middle of the holiday season, with plenty of opportunities to incorporate mushrooms in your favorite recipes, like stuffing, roasted vegetables and gravies. Or try a new recipe, like my [Beef Tenderloin Roast with Sautéed Mushrooms](#) or [5-Ingredient Grilled Shrimp-Stuffed Mushrooms](#) that easily converts into appetizers by using criminis.

Now get out there and get cooking. Remember, whatever you're making, there's a mushroom for that.

Michelle Dudash, RDN is a dietitian, Cordon Bleu-certified chef, author of [Clean Eating for Busy Families](#), and creator of [Clean Eating Cooking School](#). You can download her free healthy grocery checklist and subscribe to her monthly recipe newsletter [Dish with Dudash](#) on [her website](#).

Client Education Resources

Do you have clients who claim they don't like mushrooms? Chances are they've only tried white button mushrooms. Encourage them to try different varieties of mushrooms like shiitake, crimini and portabellas and educate them on the culinary applications for each. Need a [Mushroom Varieties Guide](#) to hand out to your clients? We've gotcha covered.



THE LATEST MUSHROOM RESEARCH

Mushrooms and Ergothioneine

What is Ergothioneine?

Ergothioneine (ET or ERGO) is a naturally occurring sulfur containing amino acid derived from histidine. Some bacteria and fungi synthesize ET; plants accumulate ET from soil where microbes generate it and mammals, including humans, acquire ET solely through diet¹. Sources of ET include red beans, oat bran, mushrooms² and organ meats such as, liver and kidney.

Once taken up from the diet, ET is retained in cells and tissues frequently exposed to oxidative stress. ET's antioxidant properties, including the ability to scavenge free radicals, have been described in literature, although additional research is needed to fully understand ET's health benefits¹.

Ergothioneine in Mushrooms

Pennsylvania State University researchers reported that all the mushrooms tested - white, crimini, portabella, and the specialty mushrooms shiitake, oyster, king oyster and maitake – contained ET but in varying amounts. The study found there was no significant difference between *Agaricus bisporus* strains ranging from 2.8 mg ET for white, 4.9 mg for crimini and 4.3 mg for portabella, for a fresh weight 85 g serving. The specialty mushrooms contained greater amounts of ET ranging between 10 and 12 mg but there was no significant difference between these specialty mushrooms³ when compared to *Agaricus bisporus*.

Research investigated ET's bioavailability from mushrooms in a pilot study in healthy men. Mushroom powder equivalent to 1 or 2 servings (8 grams or 16 grams) of fresh mushrooms was incorporated into a test meal with postprandial time-course measurements of red blood cell concentrations of ET. Both doses of mushrooms resulted in an increase in red blood cell ET⁴.

ET can exhibit antioxidant properties through multiple mechanisms. A retrospective analysis of 37 adults with metabolic syndrome at risk for developing type 2 diabetes (T2D) studied the effect of 100g (slightly more than a fresh 85 g *Nutrition Facts* serving) of white button mushrooms daily for 16 weeks on changes on serum levels of ET and biomarkers of oxidative stress and inflammation⁵.

Measures were taken at baseline, at the conclusion of the study and after an additional one month during which no mushrooms were eaten. Serum levels of ET significantly increased from baseline to 16 weeks and then decreased somewhat one month after mushroom intake ceased. ORAC activity followed a similar pattern with a significant increase from baseline to 16 weeks and then an insignificant decrease. According to the researchers, mushrooms contain a variety of compounds with potential anti-inflammatory and antioxidant health benefits that can occur with frequent consumption over time in adults predisposed to T2D and suggest that additional studies be undertaken to confirm these findings.

Key Takeaways

- Commonly consumed mushrooms contain ET in varying amounts.
- There is no RDA for ET so no label claims can be made.
- ET in mushrooms is bioavailable.
- ET has antioxidant properties.
- Healthy dietary patterns that include antioxidant rich fruits and vegetables are thought to be protective against oxidative damage that may increase the risk of chronic disease.
- Additional research is needed to examine the potential effects of ET's and health benefits.

DID YOU KNOW?

The Mushroom Council wishes you and yours a very happy holiday season. Deck your dishes with mushrooms this year and try one of our brand new holiday recipes. Watch these videos to learn how to make [mushroom veggie gravy](#) and [blended sausage stuffing](#).

Interested in pitching mushrooms and *The Blend* to the media to help lighten up holiday classics? [Download our holiday media guide](#) complete with a sample pitch, talking points and social media posts.

Hungry for more videos? Watch our new 1-minute video to learn [how to make the Blend!](#)



RD MUSHROOM LOVE IN THE MEDIA

[What umami can do for you, and four foods to help you get there](#) via *The Seattle Times*

"Mushrooms — especially dried shiitake mushrooms — are rich in umami, which isn't too surprising when you consider that mushrooms taste somewhat meaty. A good rule of thumb is that the darker the mushroom, the more the umami. Dried mushrooms have more umami than fresh, and cooked mushrooms have more umami than raw. Adding sliced mushrooms to meat-based sauces or stews, or diced cooked mushrooms to burger meat before forming it into patties, adds another layer of umami while lowering fat and calories."
— Carrie Dennett, MPH, RDN, CD

[7 Food Trends You Need to Know About Now](#) via *U.S. News*

"Eating more plants does not mean forgoing meat altogether. The Mushroom Council promoted a "blended burger" that swapped in some finely chopped mushrooms for part of the ground meat. It was a delicious combination that helped cut down on a traditional burger's calories and fat — without sacrificing the enjoyment of a full burger experience."
— Janet Helm, MS, RDN

[Add more whole grains and mushrooms to your diet for a healthier you](#) via *Miami Herald*

"Mushrooms are the only vegetarian source of vitamin D. And if that weren't enough, mushrooms are quite stealthy when it comes to decreasing the red meat in a recipe while preserving a savory taste. A 2014 article in *Journal of Food Science* described research done at the Culinary Institute of America. Meat was replaced by mushrooms in a carne asada and beef taco. Sodium was also reduced. Their findings were that a beef taco with reduced sodium and a 50 to 80 percent substitution of meat for ground white mushroom did not significantly alter the flavor profile of the dish."
— Sheah Rarback, RD

[Go More Veggie!](#) via *Health Magazine*

"Mushrooms, beans and chickpeas are my go-tos [for foods that can replace meat in many dishes]."
— Elle Penner, RD

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IN THE KITCHEN WITH MUSHROOMS

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Mushroom, Apple and Walnut Stuffed Acorn Squash

Recipe courtesy of Mushrooms Canada

These savory stuffed squash are an easy accompaniment to a festive meal or casual weeknight dinner. The meaty mushrooms add beautiful texture to the stuffing, while the apples add a layer of tartness and bite.

Prep time: 10 min

Cook time: 45 min

Serves: 8

Ingredients

- 4 small-medium sized acorn squash, seeded, cut in half lengthwise
- 2 tablespoons olive oil
- 8 ounces fresh mixed mushrooms (portabella, shiitake, oyster), coarsely chopped
- 2 celery stalks, thinly diced
- 2 apples*, peeled and finely diced
- 3 tablespoons butter
- 1 tablespoon fresh sage leaves, finely chopped
- 1 cup vegetable stock
- ½ cup walnuts, roughly chopped
- 1 small loaf of day-old sourdough or French bread, cut into ¼ inch cubes (approximately 5 cups)
- Salt and pepper, to taste

Directions

1. Preheat oven to 350°F/175°C.
2. Cut acorn squash in half lengthwise. Remove the seeds. Season the inside with salt and pepper. Place cut side down on a baking sheet lined with parchment. Bake about 30 minutes or until soft.
3. Meanwhile, in a large saucepan heat olive oil. Add mushrooms and sauté for 3-4 minutes. Add celery and continue to sauté for 5 minutes. Lower heat and add apples. Continue to cook until apples become tender, about 5 minutes. To the pan add butter, sage, and vegetable stock. Heat just until butter is melted. Remove from heat and allow to cool.
4. Place chopped walnuts and diced bread in a large bowl. Pour warm vegetable stock mixture over bread. Using your hands toss the bread until it is well coated and most of stock is absorbed.
5. Remove squash from oven and turn it cut side up. Divide the stuffing among each squash half; spoon the stuffing into the cavity of each squash until filled. Return to 350°F/175°C oven and bake until stuffing is golden brown, approximately 15-20 minutes.
6. Serve hot alongside a festive ham or weeknight roast chicken.

*Tip: Use Idared, Golden Delicious, Honeycrisp, or Empire apples.

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