# **OSU EXTENSION FAMILY & COMMUNITY HEALTH**

# Health Benefits of Tempeh



Tempeh is a plant-based protein product made from partially cooked soy beans that are fermented and pressed into a block or *cake*. The fermentation process uses a type of mold called *rhizopus*, whose safe byproduct is called *mycelium*, which holds the cake together. Fermentation also makes it easy to digest and contributes probiotics. However, some commercial products that have been pasteurized no longer contribute probiotics.

Tempeh is high in fiber, low in fat, and cholesterol free, making it a nutritious, affordable and sustainable substitute for animal protein.

Tempeh can be made using a combination of soy with other grains such as barley, flax, oats or brown rice. Tempeh could also be made from other types of beans besides soy.

# WHAT MAKES TEMPEH GREAT?

#### Nutrition

1 3-ounce serving of tempeh provides 162 calories, 18 gm protein, 7 gm fiber, 5 gm fat and no cholesterol.

## **Vitamins**

Tempeh contains B vitamins such as niacin which is required for more than 400 body reactions, and riboflavin important for cell growth and fat metabolism. B12 in tempeh, often low or missing in vegan or vegetarian diets, is important for nerve function and DNA/RNA synthesis.

## **Minerals**

Tempeh contains calcium and phosphorus for strong bones, teeth, and muscle contraction. Magnesium and potassium in tempeh work to lower blood pressure and maintain normal heart rhythm. Magnesium also helps regulate blood glucose, contributes to nerve impulse conduction and bone health. Tempeh also contains iron for oxygen transport.

#### Fat

Most of the fat in tempeh consists of heart-healthy unsaturated fatty acids (poly and mono). These fats can help lower cholesterol and inflammation. Like all plant foods, tempeh contains no cholesterol.

# **Phytonutrients**

Like other soy products, tempeh contributes isoflavones, a type of plant estrogen that has antioxidant and anti-cancer properties.

## **Fiber**

Tempeh contains mainly soluble fiber, which is known to reduce inflammation, lower cholesterol, and contribute to feelings of fullness which is important for weight management.

Soluble fiber also acts as food for our healthy gut bacteria who consume fiber and convert it to healthy compounds like short-chain-fatty-acids, which boost immunity and contribute to brain health.

# **BUYING & USING TEMPEH**

Tempeh is usually found in the refrigerator section of most supermarkets, often close to other soy products like tofu. It is available in 8 or 16-ounce blocks. Some specialty stores may sell tempeh that has already been marinated with flavors such as teriyaki or maple.

Tempeh can be a little dry and stiff when you take it out of the package. This makes it easy to slice, cube or crumble. You can soften the cake by steaming it for about 10 minutes. It is recommended to marinate tempeh before cooking. (see recipes pg 2)

Tempeh can be baked, sautéed or pan fried, depending on the recipe. Keep in mind, deep-frying not only adds





stephanie.polizzi@oregonstate.edu 541-572-5263 ext 25291 https://extension.oregonstate.edu/coos/ healthy-families-communities additional fat, but it may reduce some of the healthy isoflavones. Use tempeh as a meat alternative in sandwiches, salads and stir-frv.

# **General Tso's Tempeh**

Insanelygoodrecipes.com

# **Ingredients:**

16 oz tempeh ¼ cup oil

% cup cornstarch½ tsp red pepper flakes1 tsp paprika1 Tbsp tomato paste4 cloves garlic, sliced¼ cup vegetable broth

4 tsp ginger, grated 1 Tbsp rice vinegar 2 Tbsp sesame oil 1 Tbsp honey

2 Tbsp rice wine Sesame seed garnish

4 Tbsp soy sauce (optional)

## Cornstarch slurry

1 Tbsp cornstarch plus 2 Tbsp water

## Instructions:

- 1. Chop tempeh into 1" squares and transfer to bowl.
- Mix next 7 ingredients and divide in half. Add one half spice mixture to tempeh and mix well. Cover and chill in refrigerator 1 hour.
- 3. Add half the oil to pan on medium-high heat. Pan fry tempeh until browned and return to bowl.
- 4. Add remaining oil to pan and other half of spices with red pepper flakes. Stir one minute. Add tomato paste and remaining ingredients and stir.
- 5. Add cornstarch slurry and return tempeh to pan. Stir until coated well. Top with sesame seeds and serve.

# Tempeh Bacon Minimalistbaker.com

## **Ingredients:**

8 ounces tempeh 1 ½ tsp smoked paprika
1 Tbsp oil ½ tsp ground pepper
3 Tbsp soy sauce 1 dash cayenne (optional)
2 ½ Tbsp maple syrup Pinch of salt to taste

1 ½ tsp liquid smoke

## Instructions:

- 1. Slice block of tempeh in half widthwise, then thinly slice into 18 pieces.
- In a shallow bowl, whisk together other ingredients. Add tempeh and toss to coat. Marinate 10-15 minutes.
- 3. Preheat over to 400°F and line baking sheet with parchment paper.
- 4. Transfer tempeh to baking sheet in a single layer. Bake 10 minutes.
- 5. Remove from oven, flip and brush generously with reserved marinade. Bake 8-10 minutes more until browned and crispy.

## Peanut Tempeh Minimalistbaker.com

Ingredients: 8 oz tempeh

2 Tbsp tamari or soy sauce
2 Tbsp lime juice
2 Tbsp creamy peanut butter
3 Tbsp maple syrup
1 ½ Tbsp sesame oil
2 Tbsp tamari or soy sauce
2 Tbsp creamy peanut butter
1 whole dried chili, minced
or ¼ tsp chili pepper flakes

#### Instructions:

- 1. Add tempeh to saucepan with 1" water and bring to a low boil over medium heat. Steam tempeh for 10-12 minutes, flipping halfway. Then rinse, pat dry, and cut into thin, bite-size pieces and set aside.
- 2. Mix marinade sauce ingredients. Taste and adjust flavor as needed, adding more crushed chili for heat, maple syrup for sweetness, lime juice for acidity, or tamari for saltiness.
- 3. Add the sliced tempeh to the marinade and toss to coat. Cover and refrigerate 2-24 hours. While marinating, stir occasionally to ensure even coating.
- 4. Preheat oven to 375°F and line a baking sheet with parchment paper. Add tempeh and reserve leftover marinade. Bake 25-30 minutes or until caramelized and golden brown. Remove from oven and brush with remaining marinade. Serve hot.

## REFERENCES

USDA National Nutrient Database Ods.od.nih.gov/factsheets/

https://pubmed.ncbi.nlm.nih.gov/33569911/ https://nutritionfacts.org/topics/tempeh/