

# THE BUZZ ON THE MEDITERRANEAN DIET



The Mediterranean-style dietary pattern (MSDP) and its focus on fresh produce, lean fish, whole grains, nuts and olive oil, is ranked consistently as the top diet for health and ongoing healthy behavior maintenance. All Americans would benefit from adopting more Mediterranean dietary habits, but although many are interested, adherence remains elusive.

A new food modeling substitution study sought to identify simple dietary swaps that may help Americans follow a Mediterranean diet and assess the impact of the swaps when paired with honey on adherence.\* (See below for study details.) Honey is typically consumed in the Mediterranean region and has the potential to improve the palatability of many foods featured in this dietary pattern.

## Mediterranean Diet Food Swaps & Recipe Adjustments

The study focused on five isocaloric food substitutions that can help Americans adhere to a Mediterranean-style diet:



**Increase olive oil use**



**Substitute 4 oz. of fish for 4 oz. red meat**



**Substitute 4.9 cups of leafy greens for 2 cups starchy vegetables**



**Substitute 1 oz. of whole grains for 1 oz. of refined grains**



**Substitute ⅓ cup of whole fruit in place of fruit juice**

## HONEY RECIPES AS HELPERS

The study found that the overall effect of honey paired with these food combinations could help 98% of adult Americans eat a more Mediterranean-style diet.\*\* Honey increased the palatability of these diet swaps, despite the addition of small amounts of sugar. These findings offer empirical evidence that making simple dietary substitutions can improve adherence to the Mediterranean Diet. Recipes for incorporating honey into the food swaps recommended for the Mediterranean-style diet:

- **Fish in a honey/olive oil marinade (swapped for red meat)**
- **Whole grain with honey/olive oil dressing (swapped for a refined grain)**
- **A leafy green salad in a honey/herb/olive oil dressing (swapped for a starchy vegetable)**



\*Francine Overcash, Ambria C Crusan, Substitution Modeling Shows Simple Dietary Changes Increase Mediterranean Style Diet Pattern Scores for U.S. Adults, *Current Developments in Nutrition*, 2022; nzacl25, <https://doi.org/10.1093/cdn/nzacl25> \*\*Honey on its own would not improve the Med Diet score (MedD), but when used with olive oil as a culinary ingredient paired with fish, fruit, whole grain, and vegetable, the net overall effect is improved MedD. Despite the addition of a small amount of sugar from honey, the overall impact on MedD score remained positive when all three of these substitutions were made in the total adult population (increased the average score from 8.9 to 13.3 points per correspondence with the study author 8.31.2022).

Dr. Francine Overcash, Post-Doctoral Associate and Lecturer, and funded by the National Honey Board, investigated the effects of simple dietary swaps to promote MSDP adherence in American adults and then examined how the novel approach of dietary swaps with more palatable honey recipes as a helper improved MSDP adherence. Using data from National Health and Nutrition Examination Survey (NHANES 2007-2018), alignment to a MSDP was determined by calculation of a Mediterranean diet scoring index appropriate for non-Mediterranean populations (0-100 points for the total score; higher scores = 10 greater adherence). The study included 19,987 adult participants, between 25 and 66 years of age with complete self-reported dietary data. Participants were divided into two groups: the high-adherence group (HA) vs. the non-high adherence group (nHA) to determine differentiating food groups to be used for isocaloric (equivalent calorie) food substitution modeling. Honey was added to the substitutions in recipe form and evaluated for impact on the MSDP score.

# MEDITERRANEAN-STYLE DIET RECIPES WITH HONEY

## Mediterranean Salmon Sheet Pan Dinner

### INGREDIENTS

#### For Chimichurri:

1 bunch flat leaf parsley  
6 sprigs oregano, leaves removed  
1 T. fresh thyme leaves  
1 clove garlic  
½ cup olive oil  
2 T. honey  
1 T. red wine vinegar  
1 T. fresh lemon juice  
¼ tsp. red pepper flakes  
½ tsp. each kosher salt and fresh ground pepper

#### For Sheet Pan:

1 small red onion, peeled and cut into 1" wedges  
1½ cup sweet peppers, left whole if small, larger ones cut in half  
3 T. olive oil, divided  
1 zucchini, cut into ½" slices  
1 yellow squash, trimmed and cut into ½" slices  
1 tsp. each kosher salt and freshly ground pepper  
2 (4-6 oz.) salmon filets  
Lemon wedges

### DIRECTIONS

Preheat oven to 400°F.

Coat a heavy sheet pan with non-stick cooking spray.

Pulse all the chimichurri ingredients in a food processor until well combined, it should still have some texture, don't process until completely smooth. Set aside.

In a medium bowl, toss the red onion and sweet peppers in 1½ T olive oil and spread out on the sheet pan, bake for 8 minutes. Toss the remaining vegetables and olive oil together, and add them to the sheet pan. Clear a space in the center of the pan for the salmon filets and spread 2 T of the chimichurri over each salmon filets. Sprinkle the salt and pepper over all the vegetables and salmon.

Return the salmon and vegetables to the oven for another 10-12 minutes, until the salmon is flaky and cooked through. Remove from the oven and serve with remaining chimichurri and lemon wedges.

**TIP:** The chimichurri makes about 1½ cups and can be stored in the fridge for 2 weeks to dress up other meals such as baked chicken and vegetables or grilled fish.



## Honey Roasted Carrots and Quinoa Tabbouleh

### INGREDIENTS

#### For Vinaigrette:

Juice of 1 lemon  
3 T. honey  
½ tsp. Dijon mustard  
Pinch of Kosher salt  
Pinch of black cracked pepper  
½ cup extra virgin olive oil

#### For Salad:

½ cup parsley, chopped  
¼ cup basil, chopped  
¼ cup oregano, chopped  
¼ cup thyme, picked  
Zest of 1 lemon  
1½ cup quinoa, cooked

#### For Carrots:

1½ cups tri-color carrots, oblique cut  
½ cup vegetable stock  
¼ cup honey  
Pinch of Kosher salt & black pepper

### DIRECTIONS

**For the vinaigrette:** Whisk together lemon juice, honey, mustard, salt, and pepper until combined. Slowly drizzle oil while continuously whisking until emulsified.

**For the salad:** Combine parsley, basil, oregano, thyme, lemon zest, and quinoa with dressing. Gently fold together until evenly coated.

**For the carrots:** In a small sauté pan over medium-high flame, add oil and carrots. Sear for 2 minutes or until lightly caramelized. Season with salt and pepper.

Deglaze pan with vegetable stock. Reduce by half and add honey. Allow carrots to cook until fork tender. Remove from the stove, strain using a slotted spoon and set aside to cool.

Add carrots to salad mixture and fold gently to combine all ingredients thoroughly.

