

A close-up photograph of a bowl of food. The bowl contains white rice at the bottom, topped with pieces of browned pork, green bell peppers, red bell peppers, and a white sauce. A central white rounded rectangle contains the text "Spice Blend and Recipe Cards".

Spice Blend and Recipe Cards

From the Kitchen to the Clinic: A Cooking Demo on
Developing Culturally Appropriate Recipes for Clinical Trials

A Message from the Director of Nutrition Research at the National Pork Board

Improving visibility and inclusion of minority and underrepresented groups in human nutrition clinical trials is a high priority for us at the National Pork Board (NPB). A key consideration to increase the likelihood of translatable health outcomes in these groups is successfully implementing inclusive, culturally appropriate recipes during clinical feeding trials.

NPB hopes to be a resource for you as you develop and test recipes and eating patterns that incorporate personal preferences and cultural traditions, while improving overall diet quality to promote health and well-being across race, ethnicities and life stages.

This booklet contains 2 sample spice blend recipes we created with a clinical research chef that you can use to develop recipes that align with cultural foodways and traditional menus of your target research population. Of course, it's important to remember that when developing culturally appropriate dietary interventions for human clinical trials, participant characteristics, geographic location, accompanying foods (i.e., side dishes) and feasible portion sizes should be considered.

We hope you'll keep this booklet handy in your lab and use it as a resource across research teams as you improve the clarity, reproducibility and translation of science from culturally appropriate dietary interventions. We look forward to working with you soon and encourage you to reach out with any questions in the meantime.



Kristen Hicks-Roof, PhD, RDN, LDN

Director of Nutrition Research
National Pork Board
kroof@pork.org

All-Purpose Meat Seasoning Blend for Clinical Trial Recipes



Ingredients:

2 Tbsp. (22 g) garlic powder
2 Tbsp. (18 g) onion powder
2 tsp. (14 g) salt
2 tsp. (4.6 g) black pepper,
(ground)

Directions

Combine all ingredients in a bowl and mix well. Store in an airtight container in a cool, dark place.

Yield

Makes about 6 3/4 Tbsp. (59 g) of all-purpose meat seasoning blend for recipes being used in human clinical trials.



Chef's Tip

- Use at 1-2 Tbsp. per pound of meat depending on flavor strength desired.
- Add 1 Tbsp. of ground sage (3 g) to seasoning blend for sausage flavor.
- Other spices can be added for personal preference, such as parsley, ground mustard seed, cumin, smoked paprika or others.

Created by: Rachel Gooding, CCS, Consultant Research Chef

Approved for use in clinical human research recipes by: Sibylle Kranz, PhD, RDN, FTOS, Associate Professor at the University of Virginia and Chair of the ASN Nutrition Education and Behavioral Science RIS, Heather Leidy, PhD, Associate Professor at the University of Texas at Austin, and Kristen Hicks-Roof, PhD, RDN, LDN, Director of Nutrition Research at the National Pork Board

Mexican Chorizo Seasoning Blend for Clinical Trial Recipes



Ingredients:

- 2 Tbsp. (15 g) chili powder
- 2 Tbsp. (22 g) garlic powder
- 2 Tbsp. (18 g) onion powder
- 1 Tbsp. (5 g) cumin (ground)
- 1 Tbsp. (7 g) smoked paprika
- 2 tsp. (14 g) salt
- 2 tsp. (4.6 g) black pepper (ground)
- 2 tsp. (2.5 g) oregano (dried)
- 1/2 tsp. (1.25 g) cayenne pepper
- 1/2 tsp. (1 g) cinnamon (ground)
- 1/4 tsp. (0.5 g) clove (ground)

Directions

Combine all ingredients in a bowl and mix well. Store in an airtight container in a cool, dark place.

Yield

Makes about 10 1/2 Tbsp. (90 g) of chorizo meat seasoning blend for recipes being used in human clinical trials.

Chef's Tip

Use at 1-2 Tbsp. per pound of meat depending on flavor strength desired.

Created by: Rachel Gooding, CCS, Consultant Research Chef

Approved for use in clinical human research recipes by: Sibylle Kranz, PhD, RDN, FTOS, Associate Professor at the University of Virginia and Chair of the ASN Nutrition Education and Behavioral Science RIS, Heather Leidy, PhD, Associate Professor at the University of Texas at Austin, and Kristen Hicks-Roof, PhD, RDN, LDN, Director of Nutrition Research at the National Pork Board

[Choose Your Flavor] Pork Bowl



Ingredients:

Sausage Meat

- 1 lb. (454 g) pork loin (center, boneless, diced, frozen for 45 minutes)
- 2 Tbsp. (30 g) Mexican Chorizo Seasoning Blend (booklet pg. 4)
- 1 Tbsp. (15 g) white distilled vinegar
- 1 tsp. (4.5 g) vegetable oil

Pepper and Onion Blend

- 2 cups (104 g) white onions (diced)
- 2 cups (210 g) green peppers (diced)

Seasoned Yogurt

- 1 cup (245 g) plain Greek yogurt, no fat (strained)
- 2 tsp. (10 g) lime juice
- 1 tsp. (6 g) Mexican Chorizo Seasoning Blend (booklet pg. 4)

[Choose Your Flavor] Pork Bowl

(Per Serving, About 1 1/2 Cups or 280 g)

- 1/2 cup (87 g) brown rice (cooked)
- 1/4 cup (42 g) cooked sausage meat
- 2 Tbsp. (21 g) black beans (heated through)
- 2 Tbsp. (30 g) pepper and onion blend
- 2 Tbsp. (30 g) 75% reduced fat cheddar cheese
- 1 Tbsp. (10 g) iceberg lettuce (shredded)
- 1 Tbsp. (10 g) tomato (diced)
- 2 Tbsp. (30 g) Texas restaurant-style mild salsa
- 1 1/2 Tbsp. (20 g) seasoned yogurt

Directions

Sausage Meat

1. In a food processor or bullet blender, pulse chilled meat until ground, resembling sausage meat.
2. Transfer to a bowl and combine with chorizo seasoning blend and vinegar until evenly distributed.
3. Heat oil in a skillet over medium-high heat. Add seasoned pork and cook, stirred occasionally until cooked through to 160°F.

Pepper and Onion Blend

Spray a skillet with non-stick spray. Add pepper and onions. Sauté until translucent. Hold hot for service.

Seasoned Yogurt

In a bowl, combine yogurt, lime juice, and chorizo seasoning blend. Hold refrigerated for service.

Chef's Tip

Black beans can be seasoned with 1 tsp. per cup of chorizo seasoning if desired.

Service

In a bowl, plate rice and top with cooked sausage, sautéed pepper and onions, and black beans. Top with cheese, lettuce, tomato, salsa, and seasoned yogurt. Serve warm.

Yield

Makes 8 servings of [Choose Your Flavor] Pork Bowl for use in human clinical trials.



FLIP TO BACK OF RECIPE CARD FOR NUTRITIONAL FACTS.

[Choose Your Flavor] Pork Bowl Nutrition Facts

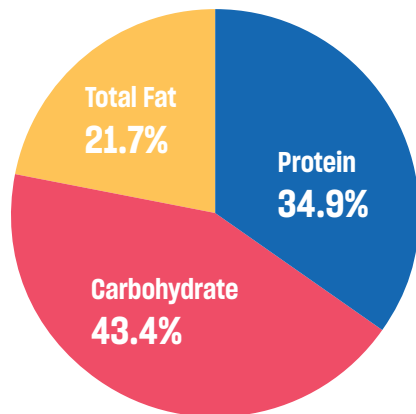
Macronutrients	Value	Unit	Vitamins	Value	Unit	Minerals	Value	Unit
Kilocalories	350.066	kcal	Vitamin A (RE)	56.24 7	RE	Sodium	750.000	mg
Protein	30.393	g	Beta-Carotene	265.452	mcg	Potassium	577.777	mg
Carbohydrate	37.789	g	Vitamin C	19.164	mg	Calcium	377.335	mg
Fat, Total	8.400	g	Vitamin D (ug)	0.34 0	mcg	Iron	2.147	mg
Alcohol	0.000	g	Vitamin E (mg)	0.145	mg	Phosphorus	307.293	mg
Cholesterol	43.297	mg	Vitamin E	0.967	mg	Magnesium	76.992	mg
Saturated Fat	3.279	g	(Alpha-Tocopherol)			Zinc	2.206	mg
Monounsaturated Fat	2.260	g	Thiamin	0.749	mg	Copper	0.222	mg
Polyunsaturated Fat	1.330	g	Riboflavin	0.455	mg	Manganese	1.168	mg
MFA 18:1, Oleic	2.099	g	Niacin	5.761	mg	Selenium	29.456	mccg
PFA 18:2, Linoleic	1.138	g	Pyridoxine (Vitamin B6)	0.524	mg	Chromium	0.003	mg
PFA 18:1, Linolenic	0.103	g	Folate (Total)	56.453	mccg			
PFA 20:5, EPA	0.000	g	Cobalamin (Vitamin B12)	0.530	mccg			
PFA 22:6, DHA	0.000	g	Biotin	0.295	mccg			
Dietary Fiber, Total	4.527	g	Pantothenic Acid	1.018	mg			
Sugar, Total	3.655	g	Vitamin K	6.089	mccg			

NOTE: This is a sample recipe for use in human clinical feeding trials. When developing culturally appropriate, dietary interventions for human clinical trials, participant characteristics, geographic location, accompanying foods (i.e., side dishes), and feasible portion sizes should be considered. Naming of the recipe or menu item should also consider your target audience. In this case, because the taste and flavor of recipes need to be adapted to your target research population, [Choose Your Flavor] Pork Bowl, or even [Insert Flavor] or [Insert Culture] Pork Bowl illustrate how adaptable a recipe like this can be for clinical research use.

Created by: Rachel Gooding, CCS, Consultant Research Chef

Approved for use in clinical human research recipes by: Sibylle Kranz, PhD, RDN, FTOS, Associate Professor at the University of Virginia and Chair of the ASN Nutrition Education and Behavioral Science RIS, Heather Leidy, PhD, Associate Professor at the University of Texas at Austin, and Kristen Hicks-Roof, PhD, RDN, LDN, Director of Nutrition Research at the National Pork Board

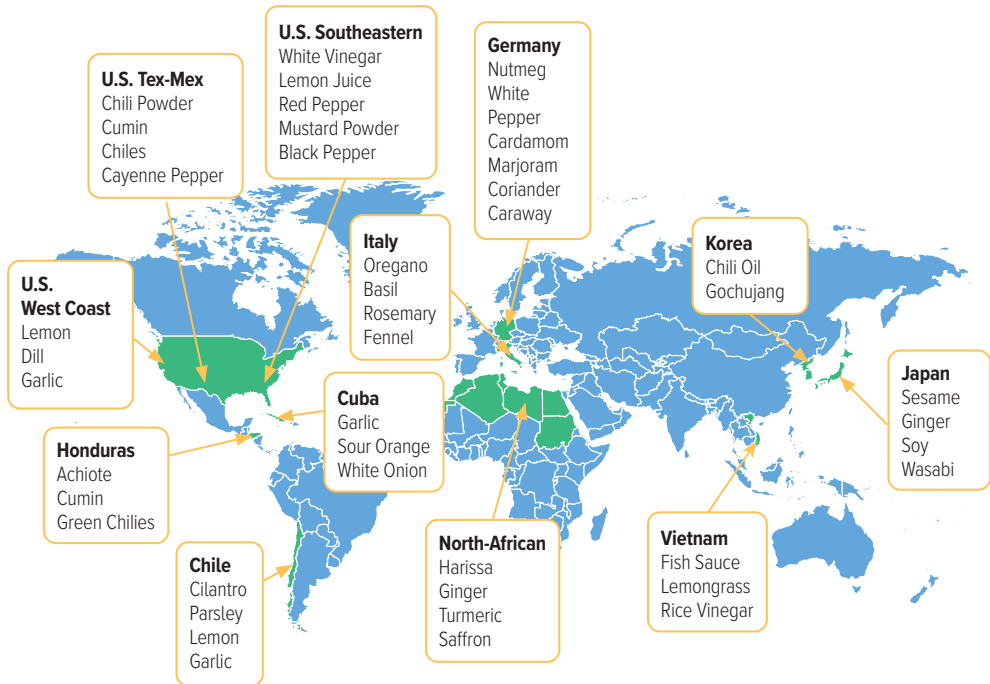
Percentage Of Kcals



Flavor Profile Considerations for Pork from Around the World

When developing culturally appropriate, dietary interventions for human clinical trials, participant characteristics, geographic location, accompanying foods (i.e., side dishes), and feasible portion sizes should be considered as well as common ingredient flavor profile combinations of the target population that pair well with meat, specifically pork.

Here are some flavor profiles from regions around the world you might consider using in culturally appropriate recipes featuring pork as a nutrient-dense source of high-quality, affordable and tasty protein for human clinical research.



A Message from the Director of Nutrition Health and Wellness Initiatives at the National Pork Board

Introducing Pork & Partners, a new community focused on the needs of nutrition professionals. I hope you'll join the Pork & Partners community and unlock a wealth of resources to help you take your professional development to the next level. Here's what you'll get:



Continuing Education

Expand your knowledge and stay ahead while earning free CPEUs for RDNs and NDTRs. Choose from a variety of topics that are top of mind for today's consumers and gain new skills to enhance your professional development.



Research

Stay up to date with the latest nutrition research and expand your expertise in specialized areas to better serve your clients and community.



Featured Recipes

Empower your patients and clients with our collection of nutritious recipes. These recipes are designed to help them achieve their health goals while enjoying delicious, satisfying and plant-forward meals that pair perfectly with lean pork.

Join the
Pork & Partners
community

Scan the QR code or go to pork.org/porkandpartners to sign up and immediately access free resources and support to take your practice to the next level!



Scan me!



Emily Krause, MFCS, RD, LD

Director, Nutrition Health & Wellness Initiatives
National Pork Board
ekrause@pork.org

**PORK &
PARTNERS**

Stay in Touch!

Get Alerts for Nutrition Science Requests for Research Proposals from NPB

**Pork Checkoff
Research RFPs**



**Scan to
Review 20+
Years of
Research on
Pork Intake
and Human
Nutrition**

**Pork Checkoff
Research**



