



Agricultural Experiment Station  
Oregon State University

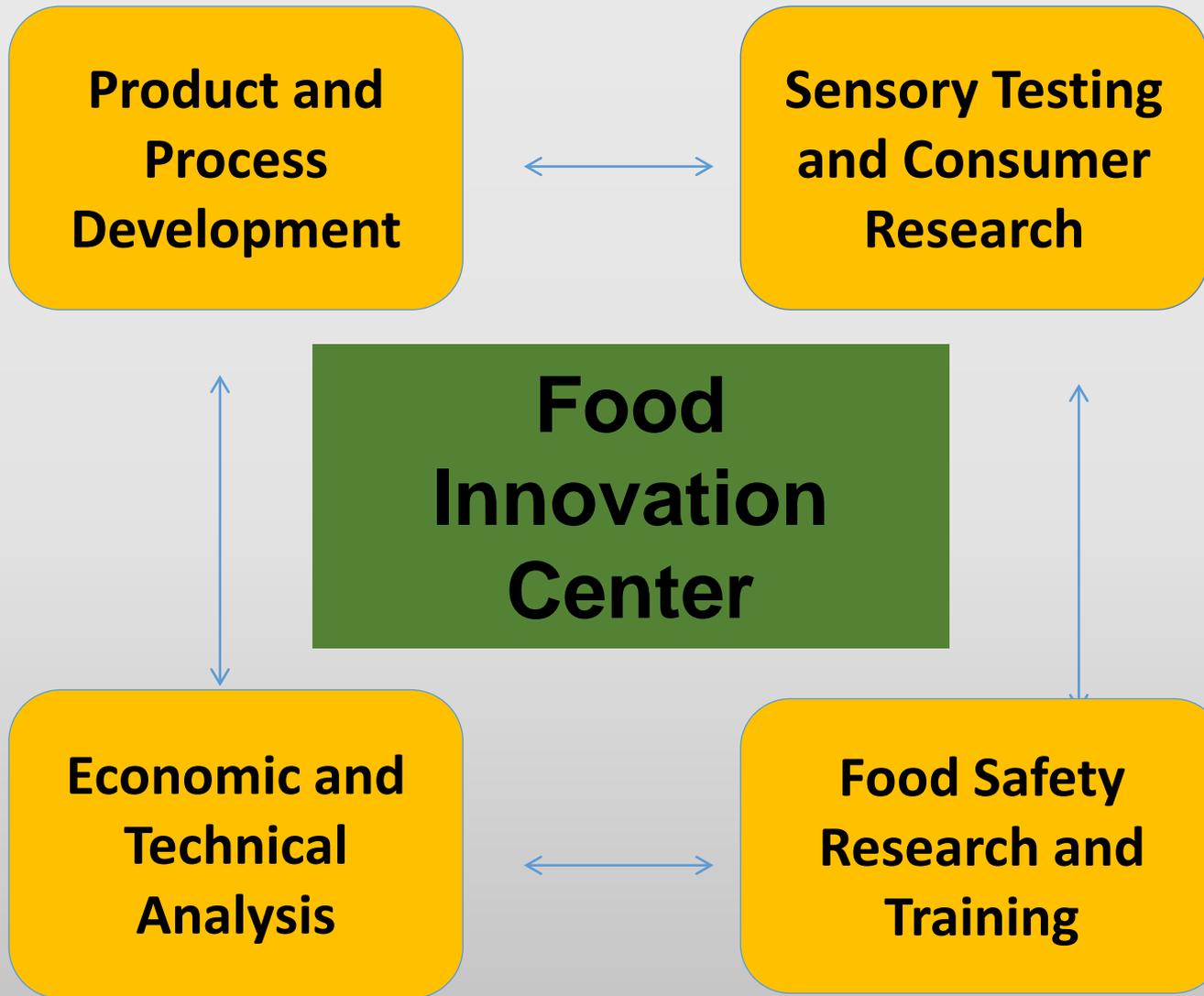
# TIPS & TECHNIQUES For Sodium Reduction in Your Kitchen

Oregon State University Food Innovation Center

Product & Process Development Team

Sarah Masoni

Jason Ball



# Product & Process Development

- New ideas, trends
- Ingredient sourcing/substitution
- New packaging
- New technologies
- Formulation
- Nutrition Labeling
- Product Ideation
- Food Photography
- Culinology



# WHO, 2016 Facts

- High sodium consumption (>2 grams/day, equivalent to 5 g salt/day) and insufficient potassium intake (less than 3.5 grams/day) contribute to high blood pressure and increase the risk of heart disease and stroke.
- The main source of sodium in our diet is salt, although it can come from sodium glutamate, used as a condiment in many parts of the world.
- Reducing salt intake has been identified as one of the most cost-effective measures countries can take to improve population health outcomes. Key salt reduction measures will generate an extra year of healthy life for a cost that falls below the average annual income or gross domestic product per person.
- An estimated **2.5 million deaths could be prevented** each year if global salt consumption were reduced to the recommended level.

# Common Institutional Foods that Contain High Amounts of Salt

- Bread
- Processed Meat
- Snack Foods
- Salad Dressings
- Condiments
- Instant Soup Mixes
- Spice Blends
- Canned Foods



[https://www.thermofisher.com/blog/wp-content/uploads/2015/10/istock\\_000019748589\\_medium.jpg](https://www.thermofisher.com/blog/wp-content/uploads/2015/10/istock_000019748589_medium.jpg)

# Misperceptions about salt reduction (WHO, 2016)

- **“On a hot and humid day when you sweat, you need more salt in the diet:”**  
There is little salt lost through sweat so there is no need for extra salt even on a hot and humid day, although it is important to drink a lot of water.
- **“Sea salt is not ‘better’ than manufactured salt simply because it is ‘natural.’”**  
Regardless of the source of salt, it is the sodium in salt that causes bad health outcomes.
- **“Salt added during cooking is not the main source of salt intake.”** In many countries, about 80% of salt in the diet comes from processed foods.
- **“Food does not need salt to have appealing flavour.”** It takes some time for a person’s taste buds to adjust, but once they get used to less salt, one is more likely to enjoy food and notice a broader range of flavours.
- **“Food has no flavour without salt.”** Whilst this may be true at first, taste buds soon become accustomed to less salt and you are more likely to enjoy food with less salt, and more flavour.
- **“Foods high in salt taste salty.”** Some foods that are high in salt don't taste very salty because sometimes they are mixed with other things like sugars that mask the taste. It is important to read food labels to find out sodium levels.
- **“Only old people need to worry about how much salt they eat:”** Eating too much salt can raise blood pressure at any age.
- **“Reducing salt could be bad for my health:”** It’s very difficult to eat too little salt since there are so many everyday foods containing salt

# TIPS & TECHNIQUES FOR SALT REDUCTION

- Just do it!
  - Reduce salt in recipe formulations.
  - Progressive reduction in salt content.
  - Modify recipes with spices or additional ingredients.
- Remove salt shakers from dining areas.
- Promote health benefits of low sodium foods.
- Develop new marketing strategies for low sodium foods.
- Label food products that are high in sodium.

**FACE FEEL PUFFY?**  
**JEANS FIT TIGHTER?**

In **3** weeks you can:

- Change your sodium palate &
- Start enjoying foods with less sodium
- Reduce bloating

**CHANGE your SALTY WAYS**

On average, American adults eat more than 3,400 milligrams of sodium daily – more than double the American Heart Association's recommended limit.

3,400 mg average sodium intake

1,500 mg recommended sodium intake

**IN ONLY 21 DAYS**

**Nutrition Facts**  
Serving Size 1 (1/2 cup)  
Amount Per Serving  
Calories 100  
Total Fat 2g  
Sodium 100mg  
Total Carbs 20g  
Protein 2g

Learning to read & understand food labels can help you make healthier choices.

**WEEK ONE**

- Look for lower sodium items
- Track your sodium consumption
- Log how much sodium you've shaved out of your diet

Breads & Rolls Cold Cuts & Cured Meats

**WEEK TWO**

- If you do eat pizza, make it one with less cheese & meats
- Add veggies to your pizza instead
- Use fresh poultry rather than fried, canned or processed

Pizza Poultry

**WEEK THREE**

- One cup of chicken noodle soup can have up to 940 mg of sodium
- Check labels & try lower sodium varieties
- Use lower sodium meats, cheeses & condiments & plenty of vegetables to build healthier sandwiches

Soups Sandwiches

American Heart Association CERTIFIED Meats Criteria For Heart-Healthy Food

Look for the Heart-Check mark to find products that meet the American Heart Association's criteria for a heart-healthy food.  
heartcheckmark.org

**THE SALTY SIX**

**KNOW THE SALTY 6**  
Common foods that may be loaded with excess sodium:

- 1 Breads & Rolls
- 2 Cold Cuts & Cured Meats
- 3 Pizza
- 4 Poultry
- 5 Soup
- 6 Sandwiches

Choose wisely, read nutrition labels & watch portion control.

# Guideline for Reducing Salt in Bread

**Table 1: Metric**

Weight of flour (kg)	Weight of salt (g)								
	1.5	1.44	1.37	1.31	1.24	1.17	1.11	Meets 2010	Meets 2012
16	352	336	320	304	288	272	256	240	210
32	704	672	640	608	576	544	512	480	420
48	1056	1008	960	912	864	816	768	720	620
64	1408	1344	1280	1216	1152	1088	1024	960	830
100	2200	2100	2000	1900	1800	1700	1600	1500	1300
salt	1.5	1.44	1.37	1.31	1.24	1.17	1.11	Meets 2010	Meets 2012

**Table 2: Imperial**

Weight of flour (lbs)	Weight of salt (oz)								
	1.5	1.44	1.37	1.31	1.24	1.17	1.11	Meets 2010	Meets 2012
35	13	12	11	10.5	10	9.5	9	8	7.5
70	25	24	22	21	20	19	18	17	15
100	35	34	32	30	29	27	26	24	21
salt	1.5	1.44	1.37	1.31	1.24	1.17	1.11	Meets 2010	Meets 2012

# Resources

## Food Standards Agency

- Food Standards Agency (2012). Reducing Salt in Bread: A Quick Guide For Craft Bakers: Food Standards Agency. Retrieved from: <https://www.food.gov.uk/sites/default/files/multimedia/pdfs/publication/saltincraftbakerbreadguide.pdf>

## Cargill

- <https://www.cargill.com/salt/wcm/groups/public/@cseg/@salt/@assets/documents/document/na3019695.pdf>

## World Health Organization

- <http://www.who.int/mediacentre/factsheets/fs393/en/>

## National Association of Master Bakers

- <https://www.food.gov.uk/sites/default/files/multimedia/pdfs/publication/saltincraftbakerbreadguide.pdf>

## US Food and Drug Administration

- <http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/ucm253316.htm>

## American Heart Association

- [https://www.heart.org/HEARTORG/Conditions/HighBloodPressure/PreventionTreatmentofHighBloodPressure/Shaking-the-Salt-Habit\\_UCM\\_303241\\_Article.jsp](https://www.heart.org/HEARTORG/Conditions/HighBloodPressure/PreventionTreatmentofHighBloodPressure/Shaking-the-Salt-Habit_UCM_303241_Article.jsp)