

### **Protecting Our Plates with Proper Cleaning**

Families around the country are concerned about the state of our food supply, as news of food borne illness outbreak and concerns around questionable pesticide and handling practices regularly plague the news and have been the subjects of films like “Food, Inc.” and the NY Times bestsellers, “The Omnivore’s Dilemma” by Michael Pollan and “Animal, Vegetable, Miracle” by Barbara Kingsolver.

By the time it reaches our plates, most food has traveled at least 1,500 miles, has been sprayed with many different chemicals, covered with a film of wax and has been touched by 20 different sets of hands. The fact remains that about 10,000 deaths and more than 80 millions illness each year are attributed to the consumption of contaminated food in the United States (National Research Council), a number which has not decreased over the past 3 years despite government efforts.

Disease causing microorganisms such as E-coli, Salmonella and parasites are commonly found on fresh vegetables, fruit, meat, seafood and poultry. Organically grown produce may carry the additional risk of microbial contamination due to the wide use of animal manure in place of chemical fertilizers. To compound the issue, we are increasingly reliant on imported produce and other items from countries with unknown agriculture practices compounding further food safety issues in the US. However, only about 1% of all imported foods are inspected by the FDA\* (Center for Science in the Public Interest Reference).

Various fresh produce items such as apples, cucumbers, and peppers arrive at food markets with a wax coating to help retain moisture and extend shelf life, trapping potentially harmful residue under the surface. The presence of other chemicals, including pesticides, fungicides and chemical fertilizers on produce surfaces, even if present in low levels, are also a public health concern. In 2000, we used nearly a billion pounds of pesticides in the U.S. but 20% of these pesticides are listed by the EPA as carcinogenic in humans. Exposure has also been linked to Parkinson’s Disease, Autism and Leukemia. Pregnant women, nursing mothers, infants, young children, the elderly and those with autoimmune deficiencies are at the highest risk.

Food preparation techniques for produce, meat and poultry can also introduce additional health

risks, where cutting boards, counter surfaces and utensils can foster the transmission of food borne pathogens. According to the December issue of Consumer Reports, two thirds of store-bought chicken was found to be contaminated with potentially harmful bacteria including *Campylobacter* and *Salmonella*.

### **What are the options?**

Bacteria, microorganisms, dirt, chemicals and any other contaminants should be adequately removed before consumption to help reduce the risk of illness. But what's the most effective method? The CDC and FDA both suggest washing vegetables and fruits by simply *rinsing* them under the faucet with water and do not recommend washing poultry nor seafood at all. However, washing food with water is not enough to remove common bacteria that can cause severe illness based on a USDA research study in 2008. Also, most chemicals applied to produce including waxes and pesticides are not water soluble and cannot be removed by water washing alone. Rinsing should not be confused with cleaning.

In an effort to clean food of bacteria, pesticide residue and other contaminants, many families have resorted to home remedies, including vinegar, baking soda and even bleach. These various techniques may be inconclusive in terms of their efficacy if combined without guidance and may alter the flavor and smell of food. They can also be potentially toxic if used improperly.

### **TOP 3 STEPS TO KEEPING CLEANER IN THE KITCHEN**

Cleanliness is a major factor in food safety. With proper attention to food handling and adequate washing techniques, you can greatly reduce your risk of food borne illness and exposure to potentially harmful contaminants to keep your family safer and healthier.

- 1) Use a high-quality food wash. Certain food washes are highly effective in removing wax and pesticide residue without altering flavor and taste, with proven anti-bacterial qualities. When selecting one, look for ingredients such as citric acid, effective in stripping contaminants and wax. Other ingredients such as sea salt have been used for thousands of years as an effective anti-bacterial and are also useful in prolonging the shelf life of produce after the waxy coating is removed. A mild plant-based cleanser is also helpful in removing visible dirt and surface residue. It is best to avoid alcohol, as

this can be unsafe, particularly for children if consumed. Grapefruit seed extract and citrus oil may also leave a residue or alter the flavor of certain produce, including berries and lettuce.

- 2) Clean surfaces properly. Wash the surface of cutting boards, countertops and your hands regularly when preparing any type of uncooked food to reduce your risk of food borne illness. This includes produce, eggs, poultry, meat and seafood. It is also a good idea to thoroughly clean your uncooked poultry and shellfish before you cook them properly, as they have often been sitting in their own liquid and have visible dirt, in the case of shellfish. There are also effective, ready-to-use products on the market that can safely clean both food and cutting surfaces.
- 3) Be wary of 'ready-to-eat.' When you buy ready-to-eat shrimp or other foods, ensure that these have not been handled by gloves that have touched raw or uncooked foods, as this may cause cross-contamination. Also, if you purchase pre-washed, bagged lettuce, you should still clean them thoroughly as bacteria like E.coli can quickly grow in greens. Make sure to check the expiration date on these as well.

### **About the Author:**

*Dr. Shawki Ibrahim is the Co-Founder and Chief Scientific Advisor, Eat Cleaner and Grow Green Industries, Inc. Dr. Ibrahim is an Emeritus Professor at Colorado State University with over 30 years of research and teaching expertise. He holds a B.S. in Agricultural Science, an M.S. in Medical Biology and a Ph.D. in Environmental Health Science. He is the author of over 100 published papers on the effects of environmental toxins on human health and one of the foremost experts in Environmental Health Science.*

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B.S., Agricultural Science, University of Alexandria- Egypt, 1962

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