

# Addressing Whole Grain Deserts—Promoting Practical Applications to Increase Whole Grain Availability

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## ABSTRACT

Americans report interest in eating more whole grains, yet national surveys consistently suggest that intakes are unchanged, continuing to be less than what is recommended. Improving the availability and increasing the variety of affordable food products containing whole grains have been promoted as ways to increase whole grain consumption. Providing more whole grain foods with higher whole grain content is key, but encouraging and rewarding individuals, families, and communities for consuming more whole grains, even small amounts, over the long term is equally important. While health benefits of whole grains may encourage some individuals to consume (more) whole grains, other individuals may respond favorably to other aspects (e.g., modifying a whole grain food's sensory characteristics or lowering the food's cost). Formulating with whole grains at higher levels in a broad array of foods could assist consumers in meeting their whole grain needs. Similarly, moving toward higher intakes may be successful with "simply" substituting whole grain versions of familiar commonly consumed foods and ingredients or substituting modest amounts of whole grain ingredients in recipes, especially those that are frequently prepared. Consumers should be encouraged to be adventurous and to try different, possibly novel, whole grains and whole grain foods, while simultaneously moderating intakes of nutrients of concern in a variety of foods acceptable to themselves and their families. At the same time, industry must develop whole grain foods that are acceptable both to business realities and to public tolerance and that maximize nutritional value. Finding an oasis in the whole grain desert is possible when consumers, health professionals, and food manufacturers agree that providing and eating more whole grains of all sorts is the desired goal.

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## Introduction

The current American diet reflects a series of mismatches around whole grains. Government and health organizations consistently recommend whole grains, but, just as consistently, the public ignores the guidance. Grain foods are widely consumed in the United States, but rarely contain whole grains (14). While whole grain intakes in the United States are below recommendations, intakes of refined grain, as well as nutrients of concern that increase palatability of whole grain (e.g., fat, sugar, and sodium), are above recommendations (14). Differ-

ences of opinion exist on whether the public is willing and able to eat (more) whole grains, with some health experts endorsing that all grains should be whole and other experts endorsing both whole and refined grains, expecting the public to segue over time into eating more whole grains. Meanwhile, the scientific debate on whether health benefits derive from whole grains directly or from their fiber continues. Regardless, experts agree that Americans should eat a more plant-based diet, containing more whole grains and fiber and less refined grains, calories, solid fat, added sugars, and sodium (14).

## Whole Grain Availability

Food deserts are defined as areas that have limited access to healthful, affordable, and nutritious foods and ingredients (15). Typically physical and economic barriers limit access to foods and retailers. There is a general assumption that there is a balance between consumer acceptance, consumer demand, and the food supply, but they are not automatically aligned. If a food (such as whole grain) is offered to the public or family, it's not necessarily purchased; even if it is purchased, it's not necessarily eaten. However, if a food is not successfully marketed inside or outside of the home and therefore is not eaten, it is likely that it won't be offered in the future by the retailer or Mom.

Several strategies exist to increase consumer pull and producer push of whole grains. Because Americans love variety, producers could offer a variety of grains and grain foods, with diverse flavors, textures, and ingredient combinations, in a variety of settings, including nontraditional settings (e.g., farmers' markets, vending, food trucks, and community-supported agriculture). Second, other public health campaigns (e.g., designated driver) may offer guidance on how to make the desired behavior of eating whole grains socially and individually acceptable. Third, pricing could be used to promote whole grains to consumers, as has been done with fruits and vegetables (6). Lastly, it is essential to market whole grains by using consistent messaging, role models, and parental or societal "sales pitches". Americans know that eating fruits and vegetables is always "the right thing" to do, for apples help keep the doctor away, spinach helps a person be strong like Popeye, and carrots help you see in the dark, but who is the cultural spokesperson for whole grains and their benefits? Marketing whole grain foods for their nutritional benefits must be done carefully, as it may backfire; while individuals vary in their ability to detect between whole and

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refined grain foods, they agree that whole grains are nutritious but also less visually attractive, less tasty, more expensive, and less available (1, 8). Delivering whole grains via stealth is being debated since foods with “an image problem” have been accepted and eaten when consumers are unaware (2, 4).

Reviewing novel yet practical low-cost public health campaigns for potential application to whole grains should be done. Educating consumers to switch to lower fat milk (16), march in place during TV commercials (13), and use active forms of commuting (3) are examples of low cost interventions that moved consumers toward meeting public health recommendations.

### **Increase Whole Grain Availability**

To increase whole grain availability, several practical options exist. Exposing the entire supply chain to whole grains increases the likelihood that each point along the chain will use whole grains. Encouraging the public, food service, and manufacturers to substitute whole grain versions of common foods and ingredients wherever and whenever possible is likely to improve whole grain intake. For example, grade-school children liked and ate about 80% of graham snacks, regardless of whole grain content (12). Research suggests that children accept about 50–70% flour replacement in a variety of foods (5,9–11). Eating whole grains across eating occasions and food forms should be promoted. Modeling suggests that children and teens could quadruple whole grain intake if whole grains were used in an array of common foods (7). Increasing convenient access to whole grains in and out of the home such as with ready-to-eat or quick-cooking grains or grain foods, prepared foods that contain whole grains, whole grains cooked in bulk for use in multiple meals, and consumer-based technologies (e.g., bread machines, slow cookers, and pressure cookers) could reduce time and effort required, thereby likely improve whole grain intake. Consumers need to embrace the “flaws” of whole grains such that whole grain characteristics (e.g., dark color, grassy flavor, and chewy texture) become desirable and to experiment with flavors, ingredients, food forms, cooking techniques, etc. that complement whole grains in common foods and everyday recipes. Compelling consumer messages about whole grains (e.g., health benefits, taste, ecological impact, and culinary adaptability) may help establish whole grains as the default grain in food decision-making.

### **Conclusion**

To move Americans closer to the goal of “make at least half of your grains whole”, we need to encourage meaningful, acceptable, and sustainable change by consumers, producers, and retailers such that more whole grain foods and ingredients are available in the food supply in forms that consumers will eat, as well as encourage everyone to do their best, accepting good faith efforts that result in meaningful, sustainable dietary improvement.

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