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Comment on FR Doc # 2019-12806

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Comment

RE: Beneficial Health Outcomes with Healthy, Higher-Protein Dietary Patterns - Evidence Overview and Supporting Citations

The Beef Checkoff appreciates the opportunity to provide evidence for consideration on the development of the 2020-2025 Dietary Guidelines for Americans (DGA). The Beef Checkoff is a producer-funded marketing and research program, which includes a significant commitment to supporting nutrition research to better understand beefs role in healthy diets.

The 2015-2020 DGA provided three recommended food-based eating patterns (a Healthy U.S.-Style Eating Pattern, a Healthy Mediterranean-style Eating Pattern, and a Healthy Vegetarian Eating Pattern) based on food pattern modeling that are consistent with favorable health outcomes and reduced risks of chronic diseases. Although it is noted regarding these eating patterns that there are many ways to consume a healthy eating pattern and healthy eating patterns can be flexible with respect to the intake of carbohydrate, protein, and fat within the context of the Acceptable Macronutrient Distribution Range (AMDR), the eating patterns are modeled with protein contributing 18% of total calories in the Healthy U.S.-Style and Healthy Mediterranean-style Eating Patterns, and 14% of total calories in the Healthy Vegetarian Eating Pattern. According to the Institute of Medicine (now the Health and Medicine Division of the National Academies of Sciences, Engineering and Medicine), the AMDR is the intake range associated with reduced risk of chronic diseases, while providing adequate intakes of essential nutrients. The protein AMDR provides a broad range of protein intake, from 10 to 35 percent of kilocalories, or about 50g to 175g a day for people consuming 2,000 kilocalories. While the existing DGA patterns meet adequacy standards for protein, evidence supports implementation of the full range of the protein AMDR as a means for Americans to choose dietary patterns that meet their individual health goals.

The 2020-2025 DGA Committee (DGAC) has identified six dietary patterns, two of which are defined by their predominant macronutrient component, i.e. high-fat and low-carbohydrate, to help determine the association between diet and various health outcomes across the life stage. However, the identification of patterns based solely on one nutrient, can be misleading. Importantly, implementation of both low carbohydrate and high-fat dietary patterns requires consideration of protein allocation. For example, a higher protein intake of ~30% of calories, and related satiety, is one of the hypothesized mechanisms behind the success of low-carbohydrate dietary patterns for weight loss. Thus, guidance regarding macronutrient defined patterns requires consideration of not only which macronutrients to limit but which to promote.

As outlined in the attached, there is a strong body of scientific evidence that underscores the importance of higher intakes of high-quality protein to promote positive health outcomes across the lifespan, including healthy growth and development, achieve and maintain a healthy body weight, improve metabolic function, reduce risk of chronic disease and support healthy aging. The Beef Checkoff supports the Committees consideration of the positive health outcomes to be gained from recommendation of higher protein dietary patterns and the recognition of the contribution of high-quality protein in existing Healthy U.S.-Style, Mediterranean-style, and DASH Eating Patterns.

Thank you for the opportunity to share the attached evidence overview for consideration as the Committee examines Topics and Questions that are relevant to evaluating the role of beef in healthy diets.

Attachments (1)

[BeefCheckoff Healthy Higher Protein Dietary Patterns comments 061719](#)

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Category:

Food industry

June 17, 2019

Barbara Schneeman, PhD
Chair, 2020-2025 Dietary Guidelines Advisory Committee

Ron Kleinman, MD
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CC: 2020-2025 Dietary Guidelines Advisory Committee Members
Data Analysis and Food Pattern Modelling – Cross-Cutting Working Group
Dietary Patterns Subcommittee

U.S. Department of Agriculture
U.S. Department of Health and Human Services
Brandon Lipps, Acting Deputy Undersecretary for Food and Nutrition Consumer Services

RE: Beneficial Health Outcomes with Healthy, Higher-Protein Dietary Patterns - Evidence Overview and Supporting Citations

Dear Members of the Dietary Guidelines Advisory Committee:

The Beef Checkoff appreciates the opportunity to provide evidence for consideration on the development of the 2020-2025 Dietary Guidelines for Americans (DGA). The Beef Checkoff is a producer-funded marketing and research program, which includes a significant commitment to supporting nutrition research to better understand beef's role in healthy diets.

The 2015-2020 DGA provided three recommended food-based eating patterns (a Healthy U.S.-Style Eating Pattern, a Healthy Mediterranean-style Eating Pattern, and a Healthy Vegetarian Eating Pattern) based on food pattern modeling that are consistent with favorable health outcomes and reduced risks of chronic diseases (1). Although it is noted regarding these eating patterns that "there are many ways to consume a healthy eating pattern" and "...**healthy eating patterns can be flexible with respect to the intake of carbohydrate, protein, and fat within the context of the Acceptable Macronutrient Distribution Range (AMDR),**" the eating patterns are modeled with protein contributing 18% of total calories in the Healthy U.S.-Style and Healthy Mediterranean-style Eating Patterns, and 14% of total calories in the Healthy Vegetarian Eating Pattern (1, 2). According to the Institute of Medicine (now the Health and Medicine Division of the National Academies of Sciences, Engineering and Medicine), the AMDR is the intake range "associated with reduced risk of chronic diseases, while providing adequate intakes of essential nutrients"(3). The protein AMDR provides a

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broad range of protein intake, from 10 to 35 percent of kilocalories, or about 50g to 175g a day for people consuming 2,000 kilocalories. **While the existing DGA patterns meet adequacy standards for protein, evidence supports implementation of the full range of the protein AMDR as a means for Americans to choose dietary patterns that meet their individual health goals.**

The 2020-2025 DGA Committee (DGAC) has identified six dietary patterns, two of which are defined by their predominant macronutrient component, i.e. high-fat and low-carbohydrate, to help determine the association between diet and various health outcomes across the life stage (4). However, the identification of patterns based solely on one nutrient, can be misleading. Importantly, implementation of both low carbohydrate and high-fat dietary patterns requires consideration of protein allocation (5). For example, a higher protein intake of ~30% of calories, and related satiety, is one of the hypothesized mechanisms behind the success of low-carbohydrate dietary patterns for weight loss (6). **Thus, guidance regarding macronutrient defined patterns requires consideration of not only which macronutrients to limit but which to promote. Research has shown the role of higher protein intake, within the AMDR, in beneficial health outcomes spans all the life stages of interest and should be considered in all healthy dietary patterns.**

Infants, Children and Adolescents

Physical growth and development during infancy, childhood and adolescence including increases in length, mass, development and maturation of function, appreciably increases the requirements for energy, protein, and many vitamins and minerals. Dietary protein is a key nutrient for growth and development as it supplies amino acids necessary for the processes such as tissue growth, energy production, immune function and nutrient absorption (7). Higher protein intake in prepubertal boys supports greater bone density in various skeletal sites (8, 9). Recent evidence, from both observational studies and randomized controlled trials, suggests that higher protein intake (20-30% of energy) promotes healthy body composition and weight in overweight and obese adolescents on energy restricted diets (10, 11). The protein AMDR for children 1 to 3 years of age is 5 to 20 percent of total calories and for children and adolescents 4 to 18 years of age, it is 10 to 30 percent of total calories (3). Evidence-based reviews designed to establish dietary reference values for healthy children, adolescents and teens, have considered the potential for adverse outcomes and consistently found insufficient evidence to establish an upper limit for protein intake (3, 12).

Adults

Research suggests that following a higher-protein dietary pattern, as part of a reduced-calorie diet, can support weight loss and maintenance by boosting metabolism, controlling appetite, and helping the body retain muscle while losing fat (6, 13, 14). The substitution of some dietary carbohydrates with protein will help to maintain body composition and mobility, improve blood lipids and lipoproteins, and help control food intake in adults (15). Evidence from clinical trials designed to test the efficacy of dietary patterns, and macronutrient modifications thereof indicates, for example, that changes in the fasting lipid profile were not significantly different with beef consumption compared with those with poultry and/or fish consumption (16), and may favorably impact other heart disease risk factors such as LDL cholesterol (17, 18) blood pressure (19, 20), and body composition (21). For the management of

type 2 diabetes, the American Diabetic Association notes that “...protein intake goals should be individualized based on current eating patterns”, recognizing that “Some research has found successful management of type 2 diabetes with meal plans including slightly higher levels of protein (20–30%), which may contribute to increased satiety” (22). In establishing dietary reference values for adults, the potential of high protein intake to result in adverse health outcomes, including kidney disease, has been considered and the evidence found to be insufficient to determine an upper limit for protein (3, 12, 23).

Older Adults

Protein is especially important as we age. After 50 years of age, adults are at risk for losing muscle mass and function, leading to falls and frailty that affect their ability to age independently (24-29). Aging has been associated with a blunted muscle protein synthesis response to dietary protein, termed “anabolic resistance”, a phenomenon that leads to a gradual loss of muscle protein content over time (sarcopenia), limiting muscle mass maintenance and accretion, which plays a key role in muscle loss (30-32). Thus, older adults need higher levels of dietary protein in their diets than younger adults to stimulate muscle growth, preserve muscle mass, support good health, promote recovery from illness, and maintain functionality (33). Contrary to persistent beliefs, there is no evidence-based link between higher protein diets and increased risk of renal disease or adverse bone health (23, 34-36). Implementing the full range of the AMDR in a variety of healthful dietary patterns may confer health benefits for older Americans, such as preserving muscle mass, improving strength and function, and supporting weight management and bone health (34-36), especially when combined with physical activity (27, 34, 37-39).

Modeling Higher Protein Dietary Patterns with Beef

The protein AMDR allows flexibility in the planning of healthful eating patterns designed to meet nutrient needs (29, 40). In fact, many Americans would benefit from getting more nutrients like protein from wholesome, high-quality beef (1, 41, 42). A food pattern modeling study demonstrates that application of the higher end of the AMDR for protein (30% of energy) to a 2000-calorie Healthy USDA Eating Pattern that replaces discretionary calories from added sugars and solid fats (e.g., commercial baked goods and snacks) with higher protein foods (e.g., lean meats, including lean beef) meets nutrient intake recommendations for adults and can provide a more favorable nutrient intake profile compared to a lower (18% of energy) protein diet (29).

Research has shown that dietary guidance is most effective in changing behaviors when it considers Americans’ food and lifestyle preferences, cultural and social beliefs, and existing habits (43, 44). As part of most Americans’ diets, traditions, and celebrations (45-49) beef is a foundational food that nourishes and optimizes health at every life stage (50). No other protein food delivers the same nutrient-rich package as beef in about 170 calories, on average, per three-ounce serving of cooked beef (51).

While it is important to consume protein from a variety of animal-and plant-based sources, animal foods generally provide more protein by weight than plant foods and supply higher quality protein (52). **Thus, fewer calories are needed to achieve adequate protein intake from animal-based compared to plant-**

based foods (52). Educating consumers to choose and incorporate lean meats is more likely to inspire positive behavior change that can be tailored to personal preferences, which may improve the likelihood of long-term success of maintaining a balanced diet and lifestyle, practicing portion control, and meeting energy and nutrient needs (53).

There is a strong body of scientific evidence that underscores the importance of higher intakes of high-quality protein to promote positive health outcomes across the lifespan, including healthy growth and development (54, 55), achieve and maintain a healthy body weight (13, 14), improve metabolic function (34, 56), reduce risk of chronic disease and support healthy aging (25, 26, 33, 39, 57). The Beef Checkoff supports the Committee's consideration of the positive health outcomes to be gained from recommendation of higher protein dietary patterns and the recognition of the contribution of high-quality protein in existing Healthy U.S.-Style, Mediterranean-style, and Dash Eating Patterns. Thank you for the opportunity to share this evidence overview for consideration as the Committee examines Topics and Questions that are relevant to evaluating the role of beef in healthy diets.



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