USA Dry Pea & Lentil Council

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Industry Research Committee
13 December 2001
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STRATEGIC PLAN - RESEARCH PRIORITIES

Background

The United States dry pea, lentil, and chickpea industry faces a continued challenge to develop improved varieties, better crop management techniques, investigate health and nutrition outcomes of consumption, and expanded end use technologies to keep USA growers and processors competitive in the global pulse market. USA pulse farmers are facing increased competition from around the world including, Canada, Australia, and the European Union (EU). This strategic plan will serve as a blueprint for our researchers and members to achieve the industry's goal of remaining competitive in the world market by increasing field productivity, increasing functionality, reducing input costs, lowering risk, and developing new uses for pulses. As pulses are an integral part of plant forward consumption, visionary research in all aspects from field to end-use is critical.

Research Mission Statement

The USA Dry Pea & Lentil Council Research Committee's goal is to increase the body of pulse crop research to ensure support for increased demand and consumption of pulse crops both internationally and domestically. The Committee aims to support the development of productive, high quality, and nutritious pulses as well as new technologies to increase the profitability and marketability of USA grown pulses.

Research Priorities

The Research Committee establishes four major focus areas that should receive highest priority:

I. Breeding & Variety Trials & Genetics
II. Crop Management & Sustainability
III. Nutrition & Health
IV. Innovation & Product Development

Collaboration and integration from field to end-use research is needed and encouraged in all four of the research priority areas.

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I. Breeding & Variety Trials & Genetics (BVG)

BVG is a high priority for the USADPLC and the Industry. Overall goals are to identify and develop varieties of pulse crops with the highest possible seed yield while maintaining high standards for seed quality including nutrition and functionality. BVG provides a means of reducing input costs to producers and processors, improving the quality and characteristics of USA pulse products, and improving productivity for the entire industry. Research in BVG should work to improve adaptability of cultivars to the diverse growing regions using both spring seeded and fall seeded varieties. Success in this area will be measured by release of commercially accepted varieties of pulses with improved traits and characteristics. Agronomic characteristics may include yield, disease resistance/tolerance, abiotic stress tolerance, architecture, nitrogen fixation, and standability. Nutrition and functionality qualities may include gelling and pasting characteristics, particle size, cooking time, appearance, nutrition content, and protein content. Additionally, the development of genetic tools to advance breeding are valued. BVG research may also support specialty/niche markets including organic and specialty end use.

II. Crop Management

The goal of this high priority research area is to develop cropping methods that enhance seed yield and reduce input costs, and that result in direct-seed/reduced tillage systems that work with fall and spring seeded dry peas, lentils, and chickpeas. Recognizing the many interrelated components of agronomic factors, a systems approach is necessary to develop long-term solutions to the problems facing our growers. We need research projects led by a multi-disciplinary group of scientists and experts that encompass all aspects of the cropping systems including: crop rotation, cultural practices, pest control; applied agronomics, plant nutrition, equipment, and economics. The majority of this systems research must be conducted on large-scale, 'real-world', on-farm sites that represent the diverse agronomic environments of the USA

III. Nutrition and Health

The goal of this high priority research area is to increase the pulse consumption in the USA and the world by providing scientific data supporting health benefits, USDA approved health claims, and increased US Dietary Guidelines (DGA) recommendations. The USADPLC especially supports the use of these nutrient dense crops to reduce obesity as it is a "gateway" disease to other chronic conditions like diabetes, heart disease and even cancer. Pulses have high dietary fiber, protein, phytochemicals, and other nutrients with positive health impacts in humans and animals. Most Americans have a dietary fiber intake that is far below the DGA. The lack of dietary fiber in the diet leads to chronic disease including chronic inflammation, heart disease, diabetes, and cancer. Increasing the consumption of pulses is a powerful tool for disease prevention.

IV. Product Development

The goal of this high priority research area is to develop new and novel uses for pulse crops and their ingredients as well as investigate their functionality for end-use products. Current technological information available for pulses is limited. Use of products as ingredients and possible ways to utilize by-products should be further explored. Functionality investigation may include characteristics such as gelling and pasting, particle size, cooking time, and appearance. Without a significant effort by the industry to develop this basic information, new product innovation and development will lag.