



USA Pulses
Industry Research Committee
2025-2030 STRATEGIC PLAN - RESEARCH PRIORITIES
13 December 2001
Revised 1 October 2025

Background

The 2025-2030 USA Pulses Strategic Research Plan outlines the activities and priorities of the Research core strategy to achieve the USA Pulses goal of doubling the production and consumption of pulse crops in the U.S. over the next five years. To accomplish the goal, the research department must provide more productive and widely adapted pulse varieties with higher quality, as well as tolerance to abiotic and biotic stresses such as drought, diseases, and insect or weed pests, along with improving production techniques to manage these challenges. It also requires research efforts to encourage the consumption of pulses, such as providing scientific justification for their nutritional benefits, investigating desirable quality traits for diverse uses, including ingredients in human food, cover crops, livestock feed, and pet food, as well as exploring innovations and new manufacturing processes. Increasing consumption could also require research to justify higher volumes of pulses, particularly in relation to dietary recommendations for patients with chronic diseases or for specific groups, such as children. The broad scope of this effort will also require the scientific community to provide expertise and form collaborations over a period of many years. This strategic plan will serve as a blueprint for the research community and the membership of our coalition to achieve the industry's goals.

Research Mission Statement

Short Term:

To double pulse crop consumption and production by 2030.

Long Term:

To establish USA pulses as a major “must have” food in our diets and cropping systems

The mission of the research program is to use the best science available to improve the productivity of pulses and variety development programs; increase the knowledge of all aspects of crop management and agronomics of pulses; expand the information and understanding of nutrition and health benefits of pulses; and assist with efforts at innovation and new product uses of pulses. The research program encourages and facilitates collaborations across institutions to leverage diverse expertise, both in the US and internationally, for projects that contribute to the goals and the industry.

Research Priorities-Research Pillars

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

I.	Breeding; Variety Trials & Genetics	40% allocation
II.	Crop Management & Sustainability	30% allocation
III.	Nutrition & Health	15% allocation
IV.	Innovation & Product Development	15% allocation

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

I. Breeding & Variety Trials & Genetics

BVG is the top 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. Nutritional and functional qualities may include gelling and pasting characteristics, particle size, cooking time, appearance, nutritional content, and protein content. Additionally, the development and implementation of genetic and genomic 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 U.S.A.

III. Nutrition and Health

The goal of this 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 are rich in dietary fiber, protein, phytochemicals, and other nutrients that have 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 research area is to 1) develop new and innovative uses for pulse crops and their ingredients and investigate their functionality in end-use products, 2) standardize the quality metrics and methods, and determine the breeding goals for conventional and ingredient end-use quality characteristics. The priority is on human food, followed by pet food and feed, and the upcycling market. The current technological information available for pulses is limited. Functionality investigation may include characteristics such as gelling and pasting, particle size, cooking time, appearance, and shelf-life. This pillar of research also supports the pulse crop quality survey, which

aims to monitor the comprehensive quality characteristics of pulses across major pulse-growing regions in the US. Without a significant effort by the industry to develop the fundamental information and standardized metrics essential for new product development, pulse food innovation and market expansion will lag. It is also crucial for breeding efforts to produce new varieties that are desirable for end-use customers. The focus pulse crops for the food innovation (ingredient market) are yellow pea, followed by chickpeas.