



Helping farmers produce a safe, nutritious and sustainable food supply

Pulse Crop Health Initiative

The Pulse Crop Health Initiative (PCHI) was inaugurated in fiscal year 2018. The goal of the Initiative is to use cooperative research on pulse crops (dry beans, dry peas, lentils, and chickpeas) to provide solutions to the critical health and sustainability challenges facing the citizens of the United States and the global community.

Expected outcomes are to discover and promote the health and nutritional benefits of regular pulse consumption, to enhance the sustainability of the global food supply through optimized production of pulses, and to increase the consumption of pulses through enhanced functionality of whole pulses and pulse ingredients in foods.

Research priorities:

- Human Health & Chronic Disease Prevention
- Functionality Traits & Food Security
- Sustainability of Pulse Production Systems



Funding to date:

- FY18: \$1.6 million distributed to 13 cooperative projects
- FY19: \$2.4 million distributed to 24 cooperative projects
- FY20: \$3.3 million distributed to 37 cooperative projects

Program progress:

- Fiscal Year 2020 research is distributed across 27 Institutions in 20 States (AR, CA, CO, IA, ID, IL, KS, MD, MI, MN, MT, ND, NE, NY, PA, SC, SD, TX, WA, and WI)
- The Initiative is guided by a Steering Committee that includes commodity groups, food industry, health community, and USDA-ARS representatives

Short list of project goal statements:

- Determine the role of pulse food consumption on key human health endpoints
- Compare the anti-obesogenic activity of low and high dietary fiber cultivars of dry bean
- Characterize the flavor, functionality, and nutritional quality properties of pea protein
- Develop and utilize functionally enhanced pulse proteins as novel food ingredients
- Understand how storage practices affect pulse functionality and nutritional composition
- Improve nodulation and nitrogen fixation in chickpea using diverse rhizobia
- Develop efficient methods for transformation and gene-editing in bean and chickpea

Contact: Michael A. Grusak, Center Director, mike.grusak@usda.gov, (701) 239-1371