



DR. CARLOS A. URREA

DRY BEAN BREEDING SPECIALIST

PROFILE

Dr. Urrea began working at the Panhandle Research and Extension Center in 2005. His research (75%) and extension (25%) efforts focus on the genetics, evaluation, and development of dry bean and chickpea cultivars adapted to western Nebraska. Screening bean germplasm for desirable agronomic traits and resistance to major abiotic and biotic stresses is integral to his breeding program. Urrea's breeding program is multi-faceted and includes laboratory, greenhouse, and field research at the Panhandle Research and Extension Center, the Scottsbluff Ag Lab, and cooperating growers' fields, as well as participation in multi-state/regional breeding trials,

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Dry Bean Breeding Activities

Urrea's dry bean breeding program focus on developing improved high-yielding dry bean within different market classes for western Nebraska. This includes selecting for plants that have upright plant architecture, earliness (less than 95 days), and high-quality seed; Identify lines with multiple disease resistance and drought/heat tolerance; and Develop data for possible germplasm/cultivars (s) releases. Other activities are: Introgression of a tertiary gene pool into dry beans to introduce drought/heat tolerance and rust resistance; Studies the genetics of bacterial wilt and common bacterial blight pv. fuscans resistance in dry beans including mapping the genes of resistance.

National, Regional, and Local Bean Variety Trials

National coordinator of the Cooperative Dry bean Nursery (CDBN) planted in 10 states across the U.S. National coordinator of the Dry Bean Drought Nursey (DBDN) panted in 6 states across the U.S. Participant of the regional Mid-west Performance Nursey (MRPN) and the national white mold monitor nursery (WMMN). Six UNL dry bean breeding lines are being tested in these trials. Coordinator of the local variety trials planted in Scottsbluff and Mitchell Ag. Labs. Six replicated variety trials within different market classes (great northern, pinto, light red kidney, dark red kidney, black, and navies were planted at both locations.

Extension and Educational Component

Urrea's findings and research plans are shared with members of the dry bean industry during the annual Nebraska Bean Tour and the Nebraska Bean Commission research planning meetings. Research results are regularly published in refereed journals, the Annual Report of the Bean Improvement Cooperative, the Nebraska Bean Bag, the Star Herald newspaper, and at panhandle.unl.edu/web/drybeans/variety. Urrea have also mentored graduate students (currently 2 PhD students) and provided opportunities for high school and undergraduate students to learn about plant breeding and educational opportunities at the University of Nebraska.