



DR. NEVIN LAWRENCE

INTEGRATED WEED MANAGEMENT SPECIALIST

Management and Germination Biology of Kochia

From 2014 to 2019 this multistate collaboration helped understand how crop rotation, herbicide program, tillage, and cover crops can be used to economically control or suppress herbicide-resistant kochia. A second goal of this project is to elucidate the role of local and regional climate on kochia germination ecology to develop predictive models of kochia seedling emergence. This project collaborated with researchers at the University of Wyoming and Montana State University, and with support of two USDA-NIFA grant programs totally \$850,000. Two extension programs were developed from this project, one research manuscript has so far been published, with more in press and review.

Management of Herbicide-Resistant Pigweed Species

Currently in the project's 5th year, a series of related projects are investigating novel combinations of POST and layby herbicide treatments, tillage systems, crop planting date, and crop rotations for control of Palmer amaranth and common waterhemp in dry beans. Support for this research has been given from the NE Potato and Dry Bean Commissions, the National Sunflower Association, and Western Sugar Cooperative in the amount of \$97,000. This project is collaborative effort with researchers in Wyoming, Montana, Idaho, North Dakota, and Kansas. One Ph.D and two Master's students have been supported through these projects.

Biofuel and Rubber Research and their Agricultural Linkages

Currently in the project's 2nd year, this multistate public and private collaboration is focused on developing rubber dandelion (*Taraxacum kok-saghyz*, TK, rubber root) into a domestic form of natural rubber. Rubber dandelion, or rubber root, produces high quality rubber equivalent to the rubber tree (*Hevea brasiliensis*), but major production challenges, including weed control, need to be addressed before large-scale commercial production can be achieved. This project is supported by partners in the rubber industry, along with a \$2,000,000 USDA-DOE grant.

PROFILE

My research and extension focus is the development of weed management programs that leverage crop rotations and other cultural practices to supplement the sometimes-limited weed control options available in Western Nebraska. Specific projects include measuring the impact of narrow-row and direct-harvest dry bean production on weed communities, controlling herbicide-resistant kochia and pigweed species using multi-year integrated management plans, and determining the influence of climate on weed abundance and management. Non-crop projects include the evaluation of novel weed control products for control of downy brome in rangeland.

CONTACT

PHONE:
308-632-1263

EMAIL:
nlawrence2@unl.edu

