

January 2, 2020

Industrial Commission of North Dakota
Attention: Executive Director
State Capital 14th Floor
600 E Boulevard Ave Dept 405
Bismarck, North Dakota 58505-0840

Project Overview- *“Effects of Cropping Sequence, Ripping and Manure on Pipeline Reclamation in Western North Dakota”*:

During the spring of 2015, installation of a new water pipeline was completed at the North Dakota State University, Williston-Research Extension Center. A long-term experiment with five annual crop rotations and two perennial covers was planted in pipeline, roadway (parallel to pipeline), and undisturbed (control) areas. We aim to determine best cropping sequences under dryland no-till conditions to reclaim severely disturbed cropland. In addition to cropping sequence, ripping/manure will be tested as the subplot in a split plot design in efforts to decrease compaction and add organic matter. This study is designed to address barriers to successful pipeline reclamation. More specifically, this study aims to provide long-term management strategies for landowners to restore productivity to cropland. If economical reclamation options are available to stakeholders, more effective reclamation plans can be composed and more efficient pipeline installations will be possible.

Status Update:

- September
 - Soil moisture data was collected.
 - Dynamic-cone penetrometer measurements were collected.
- October
 - Soil moisture data was collected.
 - Soil sampling was completed with the assistance of NDSU Soil Science Dept. staff.
 - Pre-plant residual herbicides were applied to annual crop treatments for the 2020 crop production year.
- November/December
 - Durum samples were processed for yield and protein content.
 - Root sampling was completed with the assistance of NDSU Soil Science Dept. staff.
 - Data analyses were completed for durum yields.
 - Soil moisture data was analyzed.
 - Planning began for a reclamation workshop to be held at WREC on January 28, 2020.
- The NDSU officer managing this grant, Laura Lutkemeir, will provide expenditures.

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