

# Soybean Cyst Nematode Mitigation Plan

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## Background Information

The soybean cyst nematode (*Heterodera glycines*) (SCN) has been identified throughout the Project area and was first identified in 1997<sup>1</sup> in the three counties within which the Project traverses. The SCN can be spread through the movement of affected soil. It moves very slowly through wind-blown soils, wind and water erosion, and cultivation practices and has been known to survive in the soil for a decade<sup>2</sup>.

The Project developed a mitigation plan described below to reduce the risk of spreading SCN from affected to non-affected fields. This mitigation plan has the following approach:

- Perform a field assessment to identify the presence or absence of the SCN within cultivated fields crossed by the Project right-of-way (ROW)
- Identify acceptable measures to mitigate spreading SCN during construction
- Hold construction crews accountable through inspection and monitoring during construction

## Mitigation Plan

### Field Assessment

Sampling for SCN commonly targets high probability areas in cultivated fields, which includes field lines, field entrances, and low spots<sup>3</sup>. The goal of the field assessment is to identify the presence or absence of the SCN in the cultivated fields crossed by the Project. The sampling protocol will be completed in accordance with the South Dakota State University protocol.

### Mitigation Measures

Mitigating the spread of SCN from an existing affected field to a non-SCN affected field, a variety of measures may be utilized, which are dependent on soil conditions, weather conditions, topography, distance traveled, equipment type, and cost. Unfortunately, one mitigation measure alone is not a “catch-all” and will be determined on a site-specific basis. Measures to assist in the control of soils on equipment may include: cleaning stations, utilizing clean crews for non-affected fields and a dirty crew for affected fields, equipment mats, and

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<sup>1</sup> Strunk, Connie. 2013. Soybean Cyst Nematodes: An expanding pest in South Dakota.

<http://igrow.org/agronomy/soybeans/soybean-cyst-nematodes-an-expanding-pest-in-south-dakota/>

<sup>2</sup> Niblack, T. L., K. N. Lambert, and G. L. Tylka. 2006. A Model Plant Pathogen from the Kingdom Animalia: *Heterodera glycines*, the Soybean Cyst Nematode. Annual Review of Phytopathology 44: 283-303

<sup>3</sup> Smolik, J.D., M.A. Draper. 2007. Soybean Cyst Nematode South Dakota Extension Fact Sheet 902-A. SDSU Plant Science Department. [http://pubstorage.sdstate.edu/AgBio\\_Publications/articles/FS902A.pdf](http://pubstorage.sdstate.edu/AgBio_Publications/articles/FS902A.pdf)

weather-dependent construction (i.e. frozen and dry soils). The measures ultimately used will depend on the results of the sampling effort, cost, resource availability, and contractor input.

### **Inspection/Monitoring**

The Project is committing to training and identifying individuals responsible for monitoring construction personnel in their implementation of this plan.