


Nema-Test
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**2018 Nematode Threshold
 Levels Crop = Soybeans**

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Soybean Cyst Nematode (SCN) Heterodera glycines is a severe pathogen on soybeans. It has been spreading from eastern USA into the central states following river systems initially; now over entire states east of Nebraska. It arrived in Nebraska (fields along the Missouri River) about 1988 and now extends over the eastern third of Nebraska. The same eight (sting, lance, cystoid, needle, lesion, stubby root, stunt, & dagger) "bad" nematodes on corn will injure soybeans plus two more; root knot and reniform. The spiral nematode increases greatly on soybeans (3X as much compared to corn) in just one growing season, but soybeans can handle 500-700 without much damage. However, the worst nematode is SCN. Three extraction values are given below: soil, cyst, and root. Soil SCN threshold value is based upon juveniles seen. Cyst threshold value is 1000-1200 eggs/juveniles per 100 cc of soil. Given below are estimated economical threshold values (the numbers it would take to reduce yield by 5-8%) for injurious nematodes in soybean fields in Nebraska or bordering states. Trying to establish strict threshold values is folly, as local environmental factors (temperature, water, soil type, etc.) all come into the mix when assessing stress caused by injurious nematodes.

| Soil Nematode Extraction | Threshold Levels | | |
|--|-----------------------------|-----------------------------|------------------------------|
| | Early Spring April – May | Mid Summer July – August | Early Fall Sept - October |
| Nematodes Per 100 cm³ soil | | | |
| A.Stylelet Forms | | | |
| Aphelenchoides | + | + | + |
| Aphelenchus | + | + | + |
| Belonolaimus (Sting) | 1 | 1 | 1 |
| Criconema/Mesocriconema (Ring) | 200 | 400 | 600 |
| Ditylenchus (Stem) | No Data | No Data | No Data |
| Dorylaimus/Dorylaimida | No Data | No Data | No Data |
| Helicotylenchus (Spiral) | 500 | 600 | 800 |
| Hemicycliophora | No Data | No Data | No Data |
| Heterodera (Cyst) SCN juveniles | 60 | 100 | 100 |
| Hoplolaimus (Lance) | 15 | 25 | 40 |
| Meloidodera (Cystoid) | 10 | 25 | 50 |
| Meloidogyne (Root Knot) juveniles | 50 | 100 | 150 |
| Longidorus (Needle) | 1 | 1 | 1 |
| Paratrichodorus (Stubby Root) | 25 | 50 | 100 |
| Paratylenchus (Pin) | No Data | No Data | No Data |
| Pratylenchus (Lesion) | 25 | 50 | 100 |
| Rotylenchus | No Data | No Data | No Data |
| Rotylenchulus (Reniform) Not found in Nebraska | 25 | 50 | 100 |
| Tylenchorhynchus/Quinisulcius (Stunt) | 25 | 50 | 50 |
| Tylenchus/Psilenchus | + | + | + |
| Xiphinema (Dagger) | 40 | 40 | 40 |
| Other: | | | |
| B.Non-Stylelet Forms | ++ | ++ | ++ |
| SCN Cyst extraction per 100 cm³ eggs/juveniles | 1000-1200 | 1000-1200 | 1000-1200 |
| Root Nematode Extraction as per gram dry root | | | |
| Hoplolaimus (Lance) | 50 | 100 | 150 |
| Pratylenchus (Lesion) | 500+++ | 400 | 1000 |
| Meloidogyne (Root Knot) | 50 | 100 | 150 |
| Other: | | | |

Comments: + = Fungal Feeders, no threshold value assigned
 ++ = Non-pathogenic to soybean plants
 +++ = Lesion often high in young plants due to small root mass concentrating them; but plants can
 outgrow feeding effects of lesion nematodes under this number.
 = Severely pathogenic nematodes

Threshold levels: numbers of nematodes that would reduce yields by 5-8%.