

Sampling Potato Fields for Stubby Root Nematodes

Important Notes: Soil samples can be collected any time of the year if soil is not too dry, too wet or frozen. Populations of stubby root nematodes may vary throughout the year with highest populations occurring at the end of growing season. Stubby root nematodes are migratory ectoparasites and are very sensitive to changes in soil moisture and temperature. Fluctuation in these factors causes the nematodes to move up and down in the soil profile. They are capable of traveling long, vertical distances, up to 40 inches or deeper.

1. Locate potato fields that may have corky ringspot disease or stubby root nematodes and record the GPS coordinates.
2. During the growing season, sample the area next to plant roots. During the off-season, take soil samples in the rows containing root segments, if possible.
3. Remove very dry surface soil then collect soil cores to approximately 12-inch depth using a soil probe (1-inch in diameter by 12-inch in length).
4. Take 20-30 soil cores in a zigzag pattern (W- or S-shaped) throughout an area of 4-5 acres or less and combine them to make one composite sample. For a larger field, it can be divided into four sections and one composite sample can be taken from each section.
5. Place soil cores into a big plastic bag or a soil sampling bag.
6. Place the bag in an insulated cooler and avoid direct sunlight or overheating before transporting to your lab.
7. Mix each soil sample thoroughly and store in a cool (ideally at 40-55 °F) and dark place until shipment for the nematode assay.
8. Label each sample bag (\approx 2 pounds of soil) with a permanent marker with your name, date, sample ID, field condition, and location. Send the sample(s) by overnight delivery to the NDSU nematology lab for nematode analysis.

NDSU Shipping Address – Fed Ex or UPS

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