

A. Surface Soil Sample Collection Sites/Sampling and Sample Safeguarding

Soil samples collected (sites determined by NDSSD) will be safeguarded and delivered to the USDA storage/drying warehouse in Grafton, ND where the chain of custody of samples will be transferred to the government. Chain of custody must be maintained from collection until delivery.

B. Technical Exhibits – see Figures A. and B.

Approved Soil Sampling Procedures: Soil sampling will be conducted in producers' seed potato fields upon the completion of a request for soil sampling application from the producer. The contractor will be required use the sampling methods and techniques as described below.

1. Mechanical Sampling Method:

AMS Nematode samplers must be used for mechanical sampling. Each implement has wheels equipped with chisels that will extract a surface soil sample and deposit the sample in a bucket as the implement is pulled through the field.

For **export seed potato fields**, the yield of soil required is a minimum of 5 pounds per each sampled acre (see Deliverables Section F. "Packaging Soil Samples). The mechanical samplers can be calibrated to the desired soil yield by the number of wheels mounted. The chisels will automatically eject the dip against a back board which will then funnel the dip into a collection bucket. The distance (width) between wheels is 12 feet. Refer to Attachment 1 for a diagram of the AMS mechanical sampler.

Field speed of mechanical sampler: The mechanical sampler can be operated at various speeds. Optimum speed must be determined by the operator and will vary depending on actual field conditions such as furrows and soil moisture. Operating speed is also limited by the implements ability to eject the soil dip from the chisel into the bucket. Excessive field speed may cause the soil dip to miss the back stop and not be collected and/or damage the sampler equipment. Optimum speed will be at a point where the implement will be able to collect each dip in the shortest amount of time in the field.

a. Seed potato field mechanical sampling method:

All seed potato fields for export must be "full field sampled." To start sampling in a field, the first wheel is a distance of 6 feet from the edge of the field. The implement is pulled parallel to the field edge along the entire length of the sample area. When arriving at the end of the area and making a turn, the implement must be moved over 24 feet to begin the return pass. Using this offset at each turn will space all outside wheel tracks in the field 12 feet apart (Figure 1). See Figure 1. Refer also to the section on Packaging Soil for information.

Attachment #3
PCN Surface Soil Sampling
Methods - Mechanical, Hand
Requirements

Add RFP #

2. Hand Sampling Method:

a. Hand sampling of seed potato fields:

One composite sample, comprised of 500 sub-samples (dips) of soil, will be taken per acre of field. Each dip will be approximately 5 grams of soil (4.86 g is the ideal dip size).

Figure B. Seed potato field hand sampling method survey diagram:

- Dip size = 5 grams
- 500 dips = 5.5 pounds

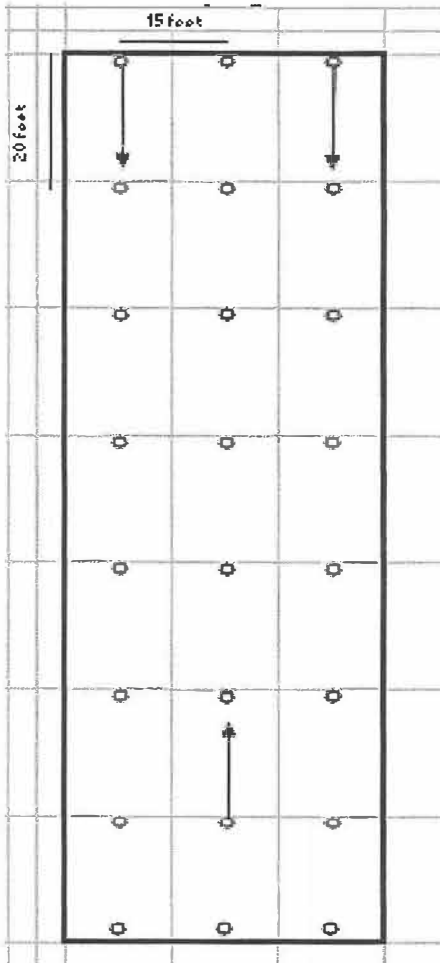


Figure A. Seed potato field mechanical sampling spacing diagram:

