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National
Soil Survey
Center

Kellogg
Soil Survey
Laboratory

Soil Archive Subsampling Guidelines for the National Soil Survey Center (NSSC) and Kellogg Soil Survey Laboratory (KSSL)

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PLEASE NOTE: Due to COVID-19 protocols and reduced staffing, the KSSL will be unable to fulfill subsampling requests until further notice.



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Cover Photo

Soil archive, USDA–NRCS.

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PART 1: Subsample Requests and Supporting Documents

NRCS is an agency committed to “helping people help the land”—our mission is to provide resources to farmers and landowners to aid them with conservation.

Specimens within an NRCS collection are the property of the U.S. Government. These samples were originally collected to obtain data to answer questions related to classification and use of the soil and/or to obtain data from representative sites which can be extrapolated for interpretation and management to similar sites over a broad area.

The primary historical objective of storage of samples has been to keep samples available for potential additional analysis by the KSSL to supply data needed to resolve questions from the submitters or for analyses related to the mission of the Soil Survey Division and the KSSL.

Efforts will be made to accommodate subsampling requests which fit within the mission and goals of the Soil Survey Division. Archive subsampling requests may be denied for reasoning of:

- Safeguarding individual privacy, confidentiality, copyright, and intellectual property rights
- Adhering to laws, regulations, treaties, and international or tribal agreements
- Protecting national security
- Resource limitations
- Specimen availability
- Preservation constraints
- Addressing general security concerns
- APHIS regulations
- Limited human resources for arranging visits, accompanying requestors, or fulfilling requests.

Individuals, Roles, and Responsibilities

Sample Requestor: Internal or external customer of the Natural Resources Conservation Service requesting subsamples from the National Soil Survey Center Kellogg Soil Survey Laboratory Archive.

Kellogg Soil Survey Laboratory (KSSL) Sample Request Coordinator: Serves as Point of Contact for all Archive subsampling requests.

Kellogg Soil Survey Laboratory Animal and Plant Health Inspection Service Liaison (KSSL APHIS Liaison): Serves as Point of Contact for all subsampling requests to determine regulated sample status and communicate with Sample Requestor regarding APHIS protocols and permitting.

National Leader for the Kellogg Soil Survey Laboratory (NL for KSSL): Will review, approve, reject, or request additional information for all Archive subsampling requests.

National Leader for Soil Science Research (NL for Research): Will work with NL for KSSL to review, approve, reject, or request additional information for Archive subsampling requests which involve samples of Reserved historical status.

National Leader for Soil Survey Standards (NL for Standards): Will work with NL for KSSL to review, approve, reject, or request additional information for Archive subsampling requests which involve samples of Reserved taxonomic status.

Director, National Soil Survey Center (NSSC): Will work with NL for KSSL to review, approve, reject, or request additional information for Reserved Exempt subsampling requests recognized as having pivotal national or international significance based on scientific, taxonomic, historical, or geographical location qualities.

Sample Request Documentation

Sample Requestors will complete a Subsampling Request Form and append a separate table of requested samples and metadata.

This form is temporarily unavailable. The KSSL is not currently accepting requests for Archive subsampling.

Requested information includes:

- Name of Requestor
- Organization
- Project focus
- Affiliated grant or study
- Intended use of data (journal, modeling, imaging)
- Number of samples requested
- Quantity of material requested (maximum 10 grams/sample)
- Table with requested sample metadata
 - Lab sample number
 - sample metadata (NASIS information, horizon, depth, layer)
 - provenance of requested sample: County/State/Country
 - Source for identifying samples and metadata can be found on the National Cooperative Soil Survey Datamart website:
<https://ncsslslabdatamart.sc.egov.usda.gov/>
- Sample lists may be returned to the Sample Requestor for revision based on sample availability, and USDA Animal and Plant Health Inspection Service (APHIS) regulated status and permitting.
- Sample requests will be reviewed, and a response issued within 30 days of the review.
- Samples utilized in published journal articles, papers, and theses should contain a citation acknowledging to Kellogg Soil Survey Laboratory (KSSL) as the sample source.
- Please email or mail a copy of the released journal article, paper, or thesis to the National Soil Survey after publication to share data, insights and findings.

PART 2: Process for Soil Archive Subsampling by the Kellogg Soil Survey Laboratory (KSSL)

Guidelines for Archive Subsampling Approval

1. The ability to fulfill subsampling requests will be based on sample availability, sample quantity, regulated status and permitting, and archive project importance. The average sample request for samples initially obtained from domestic, annual, standard, survey collection will require approval from the National Leader for the Kellogg Soil Survey Laboratory (NL for KSSL).
2. Specific projects and pedons have been identified by the Soil Survey Regions which represent unique areas of land management, geographic location, research, or preservation in their areas. These samples hold a Reserved status. Regional Directors will be consulted regarding subsampling requests for these projects or pedons.

Approval for subsampling Reserved samples will require two levels of approval from both the NL for KSSL and National Leader for Soil Science Research (for projects with historical location concerns) or the National Leader for Soil Survey Standards (for projects with taxonomic location concerns) whichever is deemed most appropriate for the specific request by the National Leader for KSSL.

3. Specific projects and pedons recognized as having pivotal national or international significance based on scientific, taxonomic, historical, or geographical location qualities are designated as Reserved-Exempt. These projects will require three levels of approval from NSSC National Leaders as well as notification and acknowledgement in writing from the National Soil Survey Center (NSSC) Director before the subsampling request is granted.

Fulfilling Sample Requests

Please note: the KSSL is unable to fulfill subsampling requests until further notice.

1. Sample Requestors should complete a Subsample Request Form and submit the request to the KSSL. Requests can consist of 100 samples total and 50 samples to be fulfilled annually.
2. The KSSL will query the requested list of samples to determine:
 - Is the sample present in the Archive?
 - How much sample quantity is available for subsampling?
 - Does a given sample have a regulated status assigned by the Animal and Plant Health Inspection Service (APHIS) and/or Nebraska Department of Agriculture (NDA)?
3. If samples are APHIS regulated, the KSSL APHIS Liaison will contact the Sample Requestor regarding APHIS regulations and permits. If the Sample Requestor doesn't have the appropriate permit(s) to receive the requested regulated samples, the sample list will need to be amended by the Requestor or heat treated in Sample Processing if subsampling is approved.

4. A finalized table of samples, metadata, disposition, and regulated status will be added to the initial Sample Request Form and submitted to the National Leader for KSSL for review. Criteria will include:
 - The value and applicability of the proposed use to the goals for which the samples were originally taken, and to the goals of the National Cooperative Soil Survey and of the NRCS.
 - The uniqueness of the sample/site and of the availability/abundance of samples from similar soils/sites.
 - The quantity of sample available and the amount required for the proposed analysis.
 - In cases of limited sample, could this request be fulfilled by commercially available samples or standards.
5. Levels of review are based on the significance of the requested sample(s), as is outlined above in: Guidelines for Archive Subsampling Approval.
6. After review, the Request Coordinator will communicate with the Sample Requestor regarding the result of the request.
7. If approved samples are APHIS regulated, the Sample Requestor will work with the KSSL APHIS Liaison to confirm permit and secondary transfer compliance for subsampling, packaging, and transportation or shipping of samples.
8. If approved samples are not APHIS regulated, a subsampling plan and timeline will be established with the Sample Requestor. Subsamples of ≤ 10 grams will be collected in glass scintillation vials unless other storage containers are provided by the Sample Requestor. Larger project subsampling requests will take >1 month to fulfill.

PART 3: Subsampling Archive samples

PLEASE NOTE: Due to COVID-19 protocols and reduced staffing, the KSSL will be unable to fulfill subsampling requests until further notice.

All subsampling will be conducted by NSSC or KSSL APHIS trained staff and Earth Team volunteers. Sample Requestors are welcome to assist once they have completed a basic APHIS awareness training and utilize personal protective equipment (PPE).

Below are basic steps and sampling awareness for subsampling.

1. Before beginning, label all sample containers with sample numbers and project ID.
2. Double check sample number on the sample container against the sample number in the spreadsheet before weighing
3. Subsample size fraction is routinely <2mm fine earth fraction.
 - ≤ 10 grams of <2mm size fraction storage samples (<2mmSTR) are permissible per subsample.
 - <2mmSTR sample pints containing >250grams are eligible for subsampling.
 - In order to subsample a <2mmSTR sample pint containing <250 grams, a Bulk Storage (BLKSTR) sample >250 grams must be available.
 - <2mmSTR sample pints containing ≤ 250 grams with no BLKSTR sample available are ineligible for subsampling.
 - Bulk Storage (BLKSTR) samples containing <250 grams are ineligible for subsampling.
 - For organic soil samples processed to 80 mesh, samples are eligible for subsampling until $\frac{1}{4}$ of the container is remaining by volume.
4. Mix soil sample with a spoon or spatula, never shake the carton.
5. Return sample containers to the appropriate boxes and return boxes to appropriate shelves after subsampling.
6. Check that balances are clean and free of spilled soil after subsampling is complete. Dispose of regulated soil contaminated consumables in regulated boxes.