



North American Proficiency Testing Program

The North American Proficiency Testing (NAPT) Program of the **Soil Science Society of America (SSSA)** furnishes agricultural and environmental laboratories with quality assurance and/or quality control tools to generate accurate and precise analyses. The program offers blind and double-blind statistical evaluations to assist laboratories in assuring clientele and consumers that their data meet high standards. Participants also benefit from the resources of SSSA and the vast expertise of its many members and scientists.

The NAPT program is run by an oversight committee comprised of volunteer representatives of Regional Soil and Plant Analysis Workgroups, scientific organizations, State/Provincial Departments of Agriculture, and private and public and plant analysis laboratories.

Program Objectives

- Provide an external quality assurance program for agricultural and environmental laboratories
- Develop a framework for long-term improvement of quality assurance of the agricultural laboratory industry
- Identify variability of specific analytical methods
- Offer QA/QC approval through the **Performance Assessment Program**

Depending on their program, participants receive quarterly shipments of soil, plant, water, and environmental soil samples. Participants may complete any of the following analyses:

Soil Analyses

Salinity: saturated paste pH, EC_e , HCO_3^- , Ca, Mg, Na, SAR, Cl, SO_4^{2-} , NO_3^- , B
 pH and EC: (1:1), (1:2), 0.01M $CaCl_2$
 Buffer pH[†]
 NO_3^- -N[†] and NH_4^+ -N (KCl extr.)
 PO_4^{3-} -P[†] and SO_4^{2-} -S (PO_4 extr.)
 Bases: K, Ca, Mg, Na, Al[†]
 Mehlich-1 and Mehlich-3 multi-element
 Micronutrients: Zn[†], Mn[†], Fe, Cu, Cl, B[†]
 Soil organic matter[†]
 Total N, TKN, Total C, TOC, $CaCO_3$ [†]
 CEC
 Particle size analysis[†]
 Soil health: CO_2 respiration[†], enzyme activity[†], PMN, POxC, ACE protein

Plant Analyses

NO_3^- -N[†], NH_4^+ -N, PO_4^{3-} -P, SO_4^{2-} -S, Cl
 Total N[†], S, and C
 P, K, Ca, Mg, S, Na, Al, B, Zn, Mn, Fe, Cu, Mo, Ba, Cd, Co, Cr, Ni, Pb, Se, Sr, and V[†]

Water Analyses

pH and EC
 Ca, Mg, Na, K, NH_4^+ -N, SAR, Adj. SAR
 HCO_3^- , CO_3^{2-} , Cl, NO_3^- , SO_4^{2-} , Cation-Anion Difference
 B, PO_4^{3-} -P, Total P ICP, TKN, Total N, TOC

Environmental Analyses

Ag, Al, As, Ba, Be, Bi, B, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Se, Sn, Sr, V, Zn, Hg

[†] multiple methods

As a NAPT program participant, you will receive soil, plant, water and/or environmental soil samples in accordance with your enrollment. Four exchanges (4x) occur in February, May, August, and November. Although most laboratories opt for all four quarters, you may opt for two exchanges where offered. Test data are submitted online at the completion of each quarter.

For labs outside the US, delivery of soil and plant materials to your locations is welcome but cannot be guaranteed without an import permit. Please email an import permit to John Lawley (john.lawley@usu.edu) or call 435-797-2117.

You will have the option to be listed as a program participant on the NAPT website. New participants also receive a waterproof copy of the NAPT Quality Assurance and Quality Control Manual, which provides guidelines for laboratories to follow in developing and maintaining a QA/QC plan. You may also receive CSA News, a monthly publication of ASA, CSSA, and SSSA.

The Performance Assessment Program (PAP) is an additional voluntary program offered to all participants enrolled in a 4X sample exchange. Passing the PAP indicates analyses are performed using validated testing methods. Participation in a PAP requires adherence to a code of ethics. More details may be found on the [PAP website](#).

| | Soil | Plant | Water | Env | 2x | 4x |
|---|------|-------|-------|-----|-------|---------|
| Soil Program | ✓ | | | | \$480 | \$760 |
| Plant Program | | ✓ | | | \$320 | \$520 |
| Water Program | | | ✓ | | \$320 | \$520 |
| Soil and Plant Program | ✓ | ✓ | | | \$520 | \$995 |
| Soil and Water Program | ✓ | | ✓ | | \$520 | \$995 |
| Soil and Env. Soil Program | ✓ | | | ✓ | \$685 | \$1,060 |
| Plant and Water Program | | ✓ | ✓ | | \$470 | \$745 |
| Soil, Plant, and Water Program | ✓ | ✓ | ✓ | | \$850 | \$1,175 |
| Soil, Plant, and Env. Soil Program | ✓ | ✓ | | ✓ | \$850 | \$1,305 |
| Soil, Water, and Env. Soil Program | ✓ | | ✓ | ✓ | \$685 | \$1,305 |
| Soil, Plant, Water, and Env. Soil Program | ✓ | ✓ | ✓ | ✓ | \$850 | \$1,475 |
| Soil PAP * | ✓ | | | | - | \$390 |
| Plant PAP * | | ✓ | | | - | \$115 |

Enroll online!
www.naptprogram.org/forms

Shipping will be charged to all program participants based on location via UPS ground service.

An additional Processing Fee of \$195 will be charged for program renewals completed after January 19, 2024.

* The Performance Assessment Program (PAP) is an **add-on service for labs enrolled in a 4x program**.

Ready to learn more? Visit the NAPT website at www.naptprogram.org or contact:

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Acknowledgment

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