

UCSV 20/0.22/.507
C-2

service in ACTION

**Colorado
State**
University
Cooperative
Extension

RECEIVED

APR 12 1990

COLORADO STATE LIBRARY
State Publications Library

no. .507

Services of the Colorado State University Soil Testing Laboratory

P. N. Soltanpour and Steve Workman¹

Quick Facts

The Colorado State University Soil Testing Laboratory analyzes soil, plant and water samples for farmers, homeowners and researchers.

The results of soil and water analyses form the basis for fertilizer recommendations and reclamation of salt-affected and sodium-affected soils.

Plant analyses are used to confirm suspected nutrient deficiencies and toxicities.

A complete list of tests and prices can be obtained on request from the Soil Testing Laboratory.

Colorado State University's Soil Testing Laboratory is engaged in three types of activities.

The first activity involves testing soils for Colorado farmers and homeowners for fertilizer recommendations, and testing soils and waters for diagnosis of salt and sodium problems. Plant samples are analyzed to confirm suspected nutrient deficiencies and toxicities.

The second activity involves serving the researchers at Colorado State University and other educational and governmental agencies by analyzing their soils and waters.

The third activity is doing research on soil testing methods in order to develop new methods and improve old ones.

For fertility evaluation of soils, organic matter, nitrate, available phosphorus, potassium, zinc and iron are determined on a routine basis. These five nutrients are deficient in Colorado soils. Other nutrients have not been found to be deficient in Colorado soils except under unusual or special conditions. When field experiments show the need for additional tests, they will be included in the routine list.

In addition to the above tests, pH and soluble salts are determined, and lime and soil texture are estimated on a routine basis. When necessary, the ratio between sodium and calcium plus magnesium, and gypsum levels in the soil also will be determined.

The salt, sodium adsorption ratio (SAR), lime, gypsum requirement and texture tests form the basis for reclamation of salt-affected and sodium-affected soils.

The routine water analysis consists of pH, conductivity (soluble salts), calcium, magnesium, potassium, sulfate, chloride, carbonate, bicarbonate, and nitrate determinations and forms the basis for evaluation of water for irrigation purposes.

In addition to these tests, the Soil Testing Laboratory is equipped to determine many other inorganic cations and anions in soils and waters. Also, water-holding characteristics, cation exchange capacity, and particle size distribution of soils can be determined.

The charge to farmers and homeowners for routine soil analysis including copper and manganese determination is \$12; for routine water analysis, \$12.50, and for routine soil analysis plus sodium evaluation, \$14. These prices are subject to change without notice. A current price list for research samples will be sent to any interested person upon request.

COLORADO STATE PUBLICATIONS LIBRARY
UCSV20/6.22/0.507 c.2 local
Soltanpour, P. N./Services of the Color



3 1799 00013 0500

¹P. N. Soltanpour, Colorado State University professor, agronomy; and Steve Workman, research associate, Soil Testing Laboratory (11/88)

Summary of services available at the Colorado State University Soil Testing Laboratory

Tests available	Purpose	Cost
Routine soil test—pH, soluble salts, organic matter, nitrate, phosphorus, potassium, zinc, iron, copper, manganese, texture and lime.	Evaluation of soil fertility and salt status for growing crops. A fertilizer recommendation is given. When salts are high, leaching requirements are suggested. Good soil drainage is a must for reclamation of salt-affected soils.	\$12.00
SAR test—soluble sodium, soluble calcium plus magnesium, gypsum and lime.	Evaluation of sodium status of the soil. This test is necessary when pH is above 8.5 or when salts are high. Amendments are recommended. If gypsum content is high, no amendment will be necessary. Good soil drainage is a must for reclamation.	\$ 4.00
Routine soil test plus SAR.	For fertility, salt and sodium evaluation. See above.	\$14.00
Routine irrigation water test—pH, soluble salts, calcium, magnesium, sodium, potassium, sulfate, chloride, carbonate, bicarbonate, boron and nitrate determination. SAR is calculated.	For evaluating salt and sodium hazard of irrigation water. Management practices for use of water for irrigation are recommended.	\$12.50
Routine domestic water test—same as routine irrigation water test.	To evaluate water quality for domestic consumption.	\$12.50
Routine plant analysis—nitrogen, phosphorus, potassium, zinc, iron, copper, manganese, calcium, magnesium, sodium and boron.	Determination of plant composition to diagnose nutrient deficiencies and toxicities.	\$15.00
Plant sulfur.	To determine sulfur status of plants.	\$ 2.50
Routine & chemical fallow (routine soil test & hydrometer).	The same as described for routine soil test. Clay and organic matter contents are utilized to calculate the rate of herbicides for chemical fallow.	\$16.00
Other tests.	For research work.	Variable, depending on test.