



Understanding the Soilless Media Report

www.ncagr.gov/agronomi/uyrmedia.htm

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Soilless media analysis provides nutrient and pH levels of container substrates often used in nursery and greenhouse crop production. All measures, except pH, are conducted on a water extract of the media, according to the saturated media extract (SME) procedure; pH is measured on a 1:1 v/v sample to distilled water slurry.

Sample Information: This section contains identifying sample information provided by the client.

Laboratory Results: Concentrations of mineral elements include N (measured as NH₄-N, NO₃-N and/or urea), P, K, Ca, Mg, S, Fe, Mn, Zn, Cu, B, Na and Cl. They are reported in parts per million (ppm).

pH is the acidity or basicity of a solution reported on a scale of 1 (most acidic) to 14 (most basic).

EC (electrical conductivity) is a measure of dissolved salts in solution, expressed in units of Siemens×10⁻⁵ /cm, which equals mho×10⁻⁵ /cm.

SAR (sodium adsorption ratio) indicates the degree of balance among Ca, Mg and Na. It is useful to determine if the Na levels, with respect to Ca and Mg levels, are potentially harmful to plant growth.

Recommendations: This section may contain comments and management suggestions from an agronomist.

General Guidelines for Interpretation of Results (Warncke 1998) [Note: Guidelines will vary based on factors such as type of fertilizer used, fertilizer rate, time since last irrigation or fertigation event, target crop and growth cycle of crop]:

IN-N	40 to 200 ppm	P	0 to 20 ppm	Mg	15 to 150 ppm
NH ₄ -N	0 to 20 ppm	K	30 to 300 ppm	pH	5.0 to 6.5
NO ₃ -N	40 to 200 ppm	Ca	20 to 250 ppm	EC	<300 mho×10 ⁻⁵ /cm

Reference:

Warncke D. 2011. Recommended test procedures for greenhouse growth media. In: Sims JT, Wolf A, editors. Recommended soil testing procedures for the northeastern United States. Newark (DE): Univ Del Agric Exp Station. Northeastern Regional Bulletin 493. p 103–10. Available at ag.udel.edu/extension/agnr/soiltesting%20-%20TOC.html (verified 17 Jan 2012).

Report Abbreviations & Units

B	Boron (ppm)
Ca	Calcium (ppm)
Cl	Chloride (ppm)
Cu	Copper (ppm)
EC	Electrical conductivity (mho×10 ⁻⁵ per cm)
Fe	Iron (ppm)
IN-N	Inorganic nitrogen (ppm)
K	Potassium (ppm)
Mg	Magnesium (ppm)
Mn	Manganese (ppm)
N	Nitrogen (ppm)
NH ₄ -N	Ammonium N (ppm)
NO ₃ -N	Nitrate N (ppm)
Na	Sodium (ppm)
OR-N	Organic N (ppm)
P	Phosphorus (ppm)
pH	Acidity or basicity (no units)
S	Sulfur (ppm)
SAR	Sodium adsorption ratio (no units)
Zn	Zinc (ppm)

Useful EC Unit Conversions

- 1 mho×10⁻⁵ /cm = 1 S×10⁻⁵ /cm
- 1 mmho/cm = 1 mS/cm
- 1 mS/cm = 1 dS/m