Soil Horizons Cheat Sheet

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Master Horizons

O Predominantly organic material, leaves, moss, and other plant materials may be identifiable or may be extensively altered.

A Predominantly mineral, mixed with lesser amounts of accumulated organic matter. Typically a surface horizon but often below an **O** horizon.

B Subsurface horizon with illuvial (washed in) accumulation of one or more clay, Fe, Al, Si, humus, carbonates, gypsum, or a horizon with other specific subsoil features.

C Parent material, unconsolidated earthy material with little or no evidence of horizon development or pedogenic alteration.

E Mineral horizon, usually light in color, from which some combination of fine clays, Fe, Al, and organic matter has been eluviated (washed out).

L Limnic layer including organic and inorganic materials deposited through the actions of aquatic organisms.

M Root-limiting layer of human-manufactured material such as asphalt, concrete, or plastic.

R Continuous bedrock, too hard for hand-digging with a spade.

V Mineral horizons formed at the soil surface or below a layer of rock fragments. They are characterized by the predominance of vesicular pores and have platy, prismatic, or columnar structure.

W Rarely used. A layer of liquid or frozen water within or beneath, but not above, the soil.

AE Transition horizon, dominated by properties of an **A** horizon with subordinate properties of an **E** horizon. Similarly, the first letter designates the dominant properties in other transition horizons: **AB, BA, BE, EA, EB, BC,** and **CB.**

A/E Combination horizon, dominated by properties of an **A** horizon with discrete intermingled bodies of **E** horizon. Similarly, the first letter designates the dominant horizon in other combination horizons: **A/B, A/C, B/A, B/E, B/C, E/A, E/B, C/A,** and **C/B.**

Suffixes

a	Highly decomposed organic matter. Example: **Oa.**
b	Buried horizon that developed before burial. Example: **Ab.**
c	Concretions or nodules. Example: **Bc.**
co	Coprogenous earth (sedimentary peat). Example: **Lco.**
d	Dense horizon physically restricting roots. Example: **Bd.**
di	Diatomaceous earth. Example: **Ldi.**
e	Organic material of intermediate decomposition. Example: **Oe.**
f	Frozen soil or water. Example: **Wf.**
ff	Dry permafrost, permanently below 0°C, but little water present. Example: **Aff.**
g	Strong gleying, iron is reduced, usually having a chroma below 2. Example: **Cg.**
h	Illuvial accumulation of organic matter. Example: **Bh.**
i	Slightly decomposed organic matter. Example: **Oi.**
j	Accumulation of jarosite, a yellow sulfate mineral. Example: **Bj.**
jj	Evidence of cryoturbation (soil horizon disruption from freezing). Example: **Ajj.**
k	Accumulation of carbonates. Example: **Bk.**
kk	Engulfment of horizon by secondary carbonates. Example: **Bkk.**
m	Pedogenic cementation. Example: **Bm.**
ma	Marl. Example: **Lma.**
n	Accumulation of sodium. Example: **Bn.**

o Residual accumulation of sesquioxides. Example: **Bo.**

p Tillage or other disturbance of the surface soil. Example: **Ap.**

q Accumulation of silica. Example: **Bq.**

r Weathered or soft bedrock. Example: **Cr.**

s Illuvial accumulation of metals complexed with organic matter. Examples: **Bs.**

se Presence of sulfides. Example: **Bse.**

ss Slickensides. Example: **Bss.**

t Accumulation of silicate clay. Example: **Bt.**

u Presence of human-manufactured materials (artifacts). Example: **Au.**

v Plinthite. Example: **Bv.**

w Development of color or structure, without accumulation of colloids. Example: **Bw.**

x Fragipan, dense, firm, and brittle. Example: **Bx.**

y Accumulation of gypsum. Example: **By.**

yy Dominance of horizon by gypsum. Example: **Byy.**

z Accumulation of salts more soluble than gypsum. Example: **Bz.**

References:

1. Gardiner, Duane T., and Raymond W. Miller. Soils in Our Environment. Pearson Prentice Hall, 2008.
2. Soil Survey Staff. 2022. Keys to Soil Taxonomy, 13th ed. USDA-Natural Resources Conservation Service.