UC CE University of California Agriculture and Natural Resources Cooperative Extension

NRCS

Mendocino County Vineyard Soils

Cole

Cole soils are very deep soils formed in recent alluvial sediments under a cover of scattered oaks, grasses, and forbs. They are slowly permeable soils of good native fertility, located on gently sloping alluvial fans and terraces.

Typical Profile:

0-1 ft.: dark brown Silty Clay Loam

1-3 ft.: dark gray/black Silty Clay Loam

3-5 ft.: gray brown Silty Clay

Soil Properties of Interest:

Available water-holding capacity (0 - 5 feet)	**9.4 inches**
Drainage class:	**Somewhat Poorly Drained**
Permeability class:	**Slow**
Clay range in profile:	**22 to 50%, increasing with depth**
Sand range in profile:	**10 to 25%, decreasing with depth**
Coarse fragments in profile:	**< 5%**
Soil pH range:	**6.7 in upper part, variable in lower part**

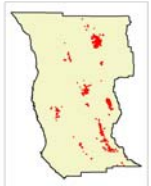
Geography and Soil Climate:

Acres of Cole in Mendocino County: 18,000 acres

Acres of Cole in Mendocino County under Vines: 2,946 +acres across both coastal and inland areas

Annual precipitation: 25-50 inches
Frost-free days: 150 to 290 days
Elevation Range: 200' to 1,950'

Slope Range: 0 to 5%



Fitness for Use in Vineyards:

- Nutrient Cycling: These soils respond well to fertilization. Organic amendments or cover crops will improve nutrient supply and tilth. Subsoil pH's up to 8.4 in low rainfall areas. Soils are non-calcareous.
- Water Relations: Roots limited by mature subsoil development and expanding clay. A water table will occur within the root zone of un-drained areas.
- Management Considerations: These soils are susceptible to compaction, soil erosion on sloped ground, and soil rutting when moist.
- Special Considerations: Expanding subsoil clay may stress plant due to recurrent root pruning at depths greater than 1.5 feet.
- Wine grape varieties suited to Cole soils:

  Inland: *Chardonnay, Sauvignon blanc, Viognier*

  Coastal: *Chardonnay, Sauvignon blanc, Pinot noir*