

DATE: SEPT 2004

Cation Exchange Capacity

Meq/100 grams

(calculation)

Routine Farm Soil Recommendation Program estimation:

$$\text{Estimated CEC} = \left[\frac{\text{Ca (ppm)}}{200} + \frac{\text{Mg (ppm)}}{122} + \frac{\text{K (ppm)}}{391} \right] \times \frac{(\text{soil} + \text{tare}) - \text{tare}^*}{4.25}$$
$$\left[\frac{(\text{soil} + \text{tare}) - \text{tare}^*}{4.25} \right] = \text{Soil density}$$

if soil density is not given:

$$\text{Estimated CEC} = \left[\frac{\text{Ca (ppm)}}{200} + \frac{\text{Mg (ppm)}}{122} + \frac{\text{K (ppm)}}{391} \right] \times \frac{\text{5-g scoop}}{\text{default wt}^*}$$

default wt* = 5 for texture code 2 (medium + fine) and 4 (red) soils

wt = 6.25 for texture code 1 soils (sands)

wt = 3.5 for texture code 3 soils (mucks)