

Review Calculations

1. A Mahan series soil typically contains the following concentration of adsorbed cations:

Cation	Concentration (cmol(+) kg ⁻¹)
Al ³⁺	1.0
Ca ²⁺	2.0
H ⁺	1.0
K ⁺	0.3
Mg ²⁺	0.6
Na ⁺	0.1

- A) What is the CEC of this soil?
- B) What is its percentage base saturation?
2. Given the below plate counts, what is the average number of CFUs per gram of this soil?

No. CFUs	Dilution
200	10 ⁻⁶
30	10 ⁻⁷

3. Assuming you wanted to apply 120 lbs of N per acre and used a 12-12-12 fertilizer that cost \$ 400 per ton (2000 lbs), how much would it cost to fertilize a 2 acre garden?
4. Continuing with the above scenario, how much P and K are applied along with the 120 lbs of N per acre? Conversion factors for P₂O₅ and K₂O are 0.44 and 0.83, respectively.

Although you only apply 0.25 ton of the 12-12-12 fertilizer, you apply it at a rate of 0.50 per acre, so you also apply,