



BIO SOIL

Application Rates Based on Soil Cation Exchange Capacity (CEC) at the Critical Root Zone

Critical Root Zone (CRZ in feet) is approximately 1.5 times the DBH (inches)

SOIL INJECTION RATES				
DBH (inches)	CRZ (ft)	CEC < 10 (oz)	CEC 10-17 (oz)	CEC > 17 (oz)
2"	9.42	3.0	2.0	1.0
4-6"	23.55	8.0	5.0	2.5
7-9"	37.68	12.5	8.5	4.0
10-12"	51.81	17.5	11.5	5.5
13-15"	65.94	22.0	14.5	7.5
16-18"	80.07	26.5	17.5	9.0
19-21"	94.20	31.5	20.5	10.5
22-24"	108.33	36.0	24.0	12.0
25-27"	122.46	41.0	27.0	13.5
28-30"	136.59	45.5	30.0	15.0
31-33"	150.72	50.0	33.0	16.5
34-36"	164.85	55.0	36.5	18.0
37-39"	178.98	59.5	39.5	19.5
40+"	188.40	63.0	41.5	20.5

GROUND SURFACE/FOLIAR SPRAY RATES				
DBH (inches)	CRZ (ft)	CEC < 10 (oz)	CEC 10-17 (oz)	CEC > 17 (oz)
2"	9.42	6.5	4.0	2.0
4-6"	23.55	15.5	10.5	5.0
7-9"	37.68	25.0	16.5	8.5
10-12"	51.81	34.5	23.0	11.5
13-15"	65.94	44.0	29.0	14.5
16-18"	80.07	53.5	35.0	17.5
19-21"	94.20	63.0	41.5	20.5
22-24"	108.33	72.0	47.5	24.0
25-27"	122.46	81.5	54.0	27.0
28-30"	136.59	91.0	60.0	30.0
31-33"	150.72	100.5	66.5	33.0
34-36"	164.85	110.0	72.5	36.5
37-39"	178.98	119.5	79.0	39.5
40+"	188.40	125.5	83.0	41.5

Calculation for CRZ Dosage Based on CEC		
CEC < 10	CEC 10-17	CEC > 17
BioSoil (oz) = (DBH x 1.5 x 3.14 x 10) / 30	BioSoil (oz) = (DBH x 1.5 x 3.14 x 6.6) / 30	BioSoil (oz) = (DBH x 1.5 x 3.14 x 3.3) / 30
WATER MIX RATIO (1:5)		
BioSoil Rate x 5 = Water Volume (oz)		

Calculation for CRZ Dosage Based on CEC		
CEC < 10	CEC 10-17	CEC > 17
BioSoil (oz) = (DBH x 1.5 x 3.14 x 20) / 30	BioSoil (oz) = (DBH x 1.5 x 3.14 x 13.2) / 30	BioSoil (oz) = (DBH x 1.5 x 3.14 x 6.6) / 30
WATER MIX RATIO (1:15)		
BioSoil Rate x 15 = Water Volume (oz)		

CONVERSION REFERENCE		
30 mL = 1 fl oz	8 fl oz = 1 cup	16 fl oz = 1 pint
1 qt = 32 fl oz	1 qt = 4 cups	1 qt = 2 pints

- **Recommended Frequency:** 1-2 times annually for healthy trees. If dosed twice, second application rate may be cut by 50%.