Agronomy 485
Dilution Problems

All answers are the no. per g O.D. soil

1.

$x + 0.28x = 11.2g$
$1.28x = 11.2$
$x = 8.75g$ O.D. soil

vol
90
2.5
3.3
95.8

8.75g =
2.65g/cc
3.3

$\frac{95.8}{8.75} = 10.9:1$

$57 \times \frac{10.9}{10} \times 10^3 = 6.2 \times 10^4$

2.

$x + 0.16x = 9.8g$
$1.16x = 9.8$
$x = 8.45g$ O.D. soil

90
1.4
3.2
94.6

8.45g =
2.65g/cc
3.2

$\frac{94.6}{8.45} = 11.2:1$

$105 \times \frac{11.2}{10} \times 10^5 = 1.18 \times 10^7$

3.

$x + 0.37x = 14.3g$
$1.37x = 14.3$
$x = 10.4g$ O.D. soil

90
3.9
3.9
97.8

10.4g =
2.65g/cc
3.9

$\frac{97.8}{10.4} = 9.4$

$22.5 \times \frac{9.4}{10} \times 10^6 = 2.1 \times 10^7$

4.

$x + 0.125x = 107$
$1.125x = 107$
$x = 95.1g$ O.D. soil

900
11.9
35.9
947.8

95.1g =
2.65g/cc
35.9

$\frac{947.8}{95.1} = 9.97:1$

$98 \times \frac{9.97}{10} \times 10^4 = 9.8 \times 10^5$

Agronomy 485
Dilution Problems (continued)

5.

x = 0.25x = 50.3g
1.25x = 50.3
x = 40.2g O.D. soil

250
10.1
15.2
275.3

40.2g =
2.65g/cc
15.2

275.3 = 6.85:1
40.2

initial 10 into 40 1/2ml

$$34 \times \frac{6.85}{5} \times 5 \times \frac{}{5 \times 5 \times 5 \times 2} = 5.8 \times 10^4$$

6.

x + 0.19x = 0.92g
1.19x = 0.92
x 0.77g O.D. soil

9
0.15
0.29
9.44

0.77g =
2.65g/cc
0.29

9.44 = 12.3:1
0.77

$$34 \times \frac{12.3}{10} \times 10^9 = 4.2 \times 10^{10}$$