

Appendix 2

Table A1.2 Standard Error of each waste type

Standard error - Wood and wood products, A

Date	Wood, wood products (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/2/2010	62.78	154.08	23740.05
2/2/2010	27.50	189.36	35856.48
3/2/2010	81.18	135.68	18408.54
4/2/2010	191.48	25.38	644.05
5/2/2010	74.88	141.98	20157.77
6/2/2010	42.36	174.50	30449.57
8/2/2010	264.32	-47.46	2252.64
9/2/2010	337.68	-120.82	14597.94
10/2/2010	141.60	75.26	5663.78
11/2/2010	243.96	-27.10	734.51
12/2/2010	198.00	18.86	355.63
13/2/2010	165.98	50.88	2588.58
15/2/2010	234.00	-17.14	293.85
16/2/2010	252.70	-35.84	1284.64
17/2/2010	213.00	3.86	14.88
18/2/2010	234.50	-17.64	311.24
19/2/2010	194.06	22.80	519.75
20/2/2010	134.59	82.27	6768.03
22/2/2010	374.36	-157.50	24806.86
23/2/2010	468.16	-251.30	63152.66
24/2/2010	229.60	-12.74	162.36
25/2/2010	125.97	90.89	8260.64
26/2/2010	131.15	85.71	7345.87
27/2/2010	134.10	82.76	6848.90
1/3/2010	300.16	-83.30	6939.21
2/3/2010	400.40	-183.54	33687.64
3/3/2010	194.70	22.16	490.98
4/3/2010	214.93	1.93	3.72
5/3/2010	607.38	-390.52	152507.38
6/3/2010	168.00	48.86	2387.11
8/3/2010	280.25	-63.39	4018.54
9/3/2010	294.06	-77.20	5960.14
10/3/2010	146.40	70.46	4964.34
11/3/2010	98.60	118.26	13984.97
12/3/2010	202.23	14.63	213.98
13/3/2010	102.00	114.86	13192.37
15/3/2010	220.00	-3.14	9.87
16/3/2010	299.75	-82.89	6871.07
29/3/2010	293.88	-77.02	5932.38
30/3/2010	284.48	-67.62	4572.73
31/3/2010	140.45	76.41	5838.19

Standard error - Wood and wood products, A (continue)

Date	Wood, wood products (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/4/2010	189.66	27.20	739.73
2/4/2010	167.44	49.42	2442.15
3/4/2010	165.75	51.11	2612.03
5/4/2010	351.64	-134.78	18166.17
6/4/2010	366.48	-149.62	22386.72
7/4/2010	176.49	40.37	1629.58
8/4/2010	249.84	-32.98	1087.81
9/4/2010	173.85	43.01	1849.69
10/4/2010	198.56	18.30	334.82
12/4/2010	262.35	-45.49	2069.52
13/4/2010	302.40	-85.54	7317.42
14/4/2010	173.31	43.55	1896.43
15/4/2010	146.20	70.66	4992.56
16/4/2010	196.00	20.86	435.06
17/4/2010	180.95	35.91	1289.39
19/4/2010	306.00	-89.14	7946.28
20/4/2010	268.50	-51.64	2666.89
21/4/2010	192.00	24.86	617.92
22/4/2010	199.20	17.66	311.81
23/4/2010	160.00	56.86	3232.84
24/4/2010	213.00	3.86	14.88
n = 62 √n = 7.87	Mean, m = 216.86		Sum of squared deviations, Σ(m-i) ² = 3536533.61

$$\begin{aligned} \text{Standard deviation (SD)} &= \text{square root } [\Sigma(m-i)^2 / (n-1)] \\ &= \sqrt{10177.60} \\ &= 100.88 \end{aligned}$$

$$\begin{aligned} \text{Standard error (SE)} &= \text{SD} / \sqrt{n} \\ &= 100.88 / 7.87 \\ &= 12.81 \end{aligned}$$

$$\begin{aligned} \text{Standard error percentage} &= [\text{SE} / \text{mean}] \times 100\% \\ &= 12.81 / 216.86 \\ &= 5.9\% \end{aligned}$$

Standard error - Pulp, paper and cardboard, B

Date	Pulp, paper, cardboard (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/2/2010	592.52	-304.38	92645.81
2/2/2010	107.50	180.64	32631.63
3/2/2010	219.68	68.46	4687.08
4/2/2010	459.43	-171.29	29339.49
5/2/2010	136.90	151.24	22874.22
6/2/2010	356.53	-68.39	4676.88
8/2/2010	138.88	149.26	22279.22
9/2/2010	185.98	102.16	10437.13
10/2/2010	213.60	74.54	5556.55
11/2/2010	440.84	-152.70	23316.60
12/2/2010	165.00	123.14	15164.02
13/2/2010	131.24	156.90	24618.32
15/2/2010	156.00	132.14	17461.58
16/2/2010	180.50	107.64	11586.86
17/2/2010	237.85	50.29	2529.31
18/2/2010	569.50	-281.36	79162.18
19/2/2010	228.49	59.65	3558.39
20/2/2010	350.56	-62.42	3895.97
22/2/2010	343.80	-55.66	3097.78
23/2/2010	404.32	-116.18	13497.27
24/2/2010	156.80	131.34	17250.79
25/2/2010	206.72	81.42	6629.58
26/2/2010	213.50	74.64	5571.47
27/2/2010	327.80	-39.66	1572.74
1/3/2010	252.22	35.92	1290.41
2/3/2010	548.24	-260.10	67650.84
3/3/2010	403.92	-115.78	13404.49
4/3/2010	116.97	171.17	29299.94
5/3/2010	216.24	71.90	5169.93
6/3/2010	390.00	-101.86	10375.00
8/3/2010	438.90	-150.76	22727.90
9/3/2010	187.59	100.55	10110.76
10/3/2010	240.95	47.19	2227.11
11/3/2010	252.30	35.84	1284.67
12/3/2010	333.84	-45.70	2088.28
13/3/2010	279.00	9.14	83.58
15/3/2010	316.80	-28.66	821.27
16/3/2010	359.70	-71.56	5120.51
29/3/2010	383.94	-95.80	9177.21
30/3/2010	304.80	-16.66	277.48
31/3/2010	140.45	147.69	21813.00

Standard error - Pulp, paper and cardboard, B (continue)

Date	Wood, wood products (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/4/2010	393.89	-105.75	11182.58
2/4/2010	225.40	62.74	3936.59
3/4/2010	162.50	125.64	15785.98
5/4/2010	387.40	-99.26	9852.10
6/4/2010	279.95	8.19	67.11
7/4/2010	289.71	-1.57	2.46
8/4/2010	225.55	62.59	3917.79
9/4/2010	239.40	48.74	2375.81
10/4/2010	172.28	115.86	13424.06
12/4/2010	414.99	-126.85	16090.35
13/4/2010	301.92	-13.78	189.83
14/4/2010	287.76	0.38	0.15
15/4/2010	275.40	12.74	162.37
16/4/2010	350.00	-61.86	3826.38
17/4/2010	305.97	-17.83	317.83
19/4/2010	255.00	33.14	1098.41
20/4/2010	483.30	-195.16	38086.54
21/4/2010	320.00	-31.86	1014.92
22/4/2010	265.60	22.54	508.15
23/4/2010	320.00	-31.86	1014.92
24/4/2010	219.00	69.14	4780.65
n = 62 √n = 7.87	Mean, m = 288.14		Sum of squared deviations, Σ(m-i) ² = 5932207.77

$$\begin{aligned} \text{Standard deviation (SD)} &= \text{square root } [\Sigma(m-i)^2 / (n-1)] \\ &= \sqrt{12862.27} \\ &= 113.41 \end{aligned}$$

$$\begin{aligned} \text{Standard error (SE)} &= \text{SD} / \sqrt{n} \\ &= 113.41 / 7.87 \\ &= 14.40 \end{aligned}$$

$$\begin{aligned} \text{Standard error percentage} &= [\text{SE} / \text{mean}] \times 100\% \\ &= 14.40 / 288.14 \\ &= 5.00\% \end{aligned}$$

Standard error - Food, food waste, beverages and tobacco, C

Date	Food, food waste, beverages, tobacco (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/2/2010	2023.04	-214.87	46170.36
2/2/2010	1254.25	553.92	306824.15
3/2/2010	1163.58	644.59	415492.53
4/2/2010	2834.75	-1026.58	1053872.46
5/2/2010	1172.34	635.83	404276.10
6/2/2010	1747.35	60.82	3698.72
8/2/2010	2325.12	-516.95	267240.30
9/2/2010	2550.24	-742.07	550672.19
10/2/2010	1180.80	627.37	393589.47
11/2/2010	1960.24	-152.07	23126.17
12/2/2010	1434.00	374.17	140001.02
13/2/2010	1825.78	-17.61	310.21
15/2/2010	2031.90	-223.73	50056.41
16/2/2010	1859.15	-50.98	2599.26
17/2/2010	1721.75	86.42	7467.91
18/2/2010	1557.75	250.42	62708.72
19/2/2010	1430.41	377.76	142700.42
20/2/2010	1349.03	459.14	210806.87
22/2/2010	1883.26	-75.09	5638.94
23/2/2010	2713.20	-905.03	819084.56
24/2/2010	1307.60	500.57	250567.42
25/2/2010	1434.12	374.05	139911.23
26/2/2010	1424.35	383.82	147315.56
27/2/2010	1341.00	467.17	218245.10
1/3/2010	2275.84	-467.67	218717.94
2/3/2010	2909.37	-1101.20	1212647.83
3/3/2010	1365.21	442.96	196210.99
4/3/2010	1515.58	292.59	85607.21
5/3/2010	1361.04	447.13	199922.64
6/3/2010	1356.00	452.17	204455.08
8/3/2010	2472.85	-664.68	441803.36
9/3/2010	2690.14	-881.97	777876.20
10/3/2010	1317.60	490.57	240656.08
11/3/2010	1368.80	439.37	193043.45
12/3/2010	1582.53	225.64	50912.10
13/3/2010	1443.00	365.17	133347.01
15/3/2010	2195.60	-387.43	150104.25
16/3/2010	2735.90	-927.73	860688.34
29/3/2010	2367.63	-559.46	312998.74
30/3/2010	2473.96	-665.79	443280.19
31/3/2010	1226.95	581.22	337813.31

Standard error - Food, food waste, beverages and tobacco, C (continue)

Date	Wood, wood products (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/4/2010	1436.54	371.63	138106.70
2/4/2010	1487.64	320.53	102737.62
3/4/2010	1498.25	309.92	96048.61
5/4/2010	3092.64	-1284.47	1649870.64
6/4/2010	2511.41	-703.24	494550.58
7/4/2010	1548.45	259.72	67452.97
8/4/2010	1630.90	177.27	31423.62
9/4/2010	1305.30	502.87	252875.32
10/4/2010	1349.04	459.13	210797.69
12/4/2010	2418.39	-610.22	372371.99
13/4/2010	2342.40	-534.23	285404.79
14/4/2010	1514.01	294.16	86528.40
15/4/2010	1608.20	199.97	39986.84
16/4/2010	1655.50	152.67	23307.24
17/4/2010	1519.98	288.19	83051.80
19/4/2010	2550.00	-741.83	550316.06
20/4/2010	2631.30	-823.13	677547.78
21/4/2010	1440.00	368.17	135547.01
22/4/2010	1560.40	247.77	61388.53
23/4/2010	1440.00	368.17	135547.01
24/4/2010	1383.00	425.17	180767.06
n = 62 $\sqrt{n} = 7.87$	Mean, m = 1808.17		Sum of squared deviations, $\Sigma(m-i)^2 = 17398089.10$

$$\begin{aligned} \text{Standard deviation (SD)} &= \text{square root } [\Sigma(m-i)^2 / (n-1)] \\ &= \sqrt{285214.58} \\ &= 534.05 \end{aligned}$$

$$\begin{aligned} \text{Standard error (SE)} &= \text{SD} / \sqrt{n} \\ &= 534.05 / 7.87 \\ &= 67.83 \end{aligned}$$

$$\begin{aligned} \text{Standard error percentage} &= [\text{SE} / \text{mean}] \times 100\% \\ &= 67.83 / 1808.17 \\ &= 3.75\% \end{aligned}$$

Standard error - Textiles, D

Date	Textiles (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/2/2010	147.80	-42.33	1792.06
2/2/2010	64.50	40.97	1678.32
3/2/2010	92.25	13.22	174.70
4/2/2010	236.90	-131.43	17274.57
5/2/2010	133.38	-27.91	779.12
6/2/2010	102.37	3.10	9.59
8/2/2010	159.49	-54.02	2918.46
9/2/2010	117.94	-12.47	155.57
10/2/2010	93.60	11.87	140.83
11/2/2010	98.44	7.03	49.38
12/2/2010	129.00	-23.53	553.79
13/2/2010	115.80	-10.33	106.77
15/2/2010	117.00	-11.53	133.00
16/2/2010	75.81	29.66	879.55
17/2/2010	88.75	16.72	279.47
18/2/2010	103.85	1.62	2.62
19/2/2010	37.56	67.91	4611.40
20/2/2010	93.90	11.57	133.80
22/2/2010	76.40	29.07	844.91
23/2/2010	111.72	-6.25	39.10
24/2/2010	94.64	10.83	117.23
25/2/2010	119.51	-14.04	197.20
26/2/2010	152.50	-47.03	2212.08
27/2/2010	89.40	16.07	258.16
1/3/2010	94.08	11.39	129.67
2/3/2010	92.40	13.07	170.75
3/3/2010	117.48	-12.01	144.31
4/3/2010	74.18	31.29	978.89
5/3/2010	53.11	52.36	2741.28
6/3/2010	120.00	-14.53	211.20
8/3/2010	133.00	-27.53	758.05
9/3/2010	65.91	39.56	1564.78
10/3/2010	85.40	20.07	402.69
11/3/2010	97.73	7.74	59.87
12/3/2010	108.50	-3.03	9.20
13/3/2010	105.00	0.47	0.22
15/3/2010	96.80	8.67	75.12
16/3/2010	109.00	-3.53	12.48
29/3/2010	116.60	-11.13	123.94
30/3/2010	152.40	-46.93	2202.68
31/3/2010	29.15	76.32	5824.32

Standard error - Textiles, D (continue)

Date	Wood, wood products (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/4/2010	61.90	43.57	1898.11
2/4/2010	99.82	5.65	31.89
3/4/2010	97.50	7.97	63.48
5/4/2010	125.16	-19.69	387.80
6/4/2010	100.27	5.20	27.01
7/4/2010	99.90	5.57	30.99
8/4/2010	104.10	1.37	1.87
9/4/2010	76.95	28.52	813.23
10/4/2010	122.64	-17.17	294.90
12/4/2010	152.64	-47.17	2225.27
13/4/2010	100.80	4.67	21.78
14/4/2010	68.67	36.80	1354.04
15/4/2010	153.00	-47.53	2259.36
16/4/2010	91.00	14.47	209.30
17/4/2010	75.67	29.80	887.88
19/4/2010	153.00	-47.53	2259.36
20/4/2010	161.10	-55.63	3095.00
21/4/2010	64.00	41.47	1719.53
22/4/2010	99.60	5.87	34.42
23/4/2010	96.00	9.47	89.63
24/4/2010	132.00	-26.53	703.99
n = 62 √n = 7.87	Mean, m = 105.47		Sum of squared deviations, Σ(m-i) ² = 69159.96

$$\begin{aligned} \text{Standard deviation (SD)} &= \text{square root } [\Sigma(m-i)^2 / (n-1)] \\ &= \sqrt{1133.77} \\ &= 33.67 \end{aligned}$$

$$\begin{aligned} \text{Standard error (SE)} &= \text{SD} / \sqrt{n} \\ &= 33.67 / 7.87 \\ &= 4.28 \end{aligned}$$

$$\begin{aligned} \text{Standard error percentage} &= [\text{SE} / \text{mean}] \times 100\% \\ &= 4.28 / 105.47 \\ &= 4.06\% \end{aligned}$$

Standard error - Garden, yard and park waste, E

Date	Garden, yard, park waste (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/2/2010	143.88	170.15	28952.28
2/2/2010	66.50	247.53	61272.94
3/2/2010	211.56	102.47	10500.86
4/2/2010	568.10	-254.07	64549.68
5/2/2010	237.04	76.99	5928.03
6/2/2010	370.65	-56.62	3205.40
8/2/2010	598.53	-284.50	80938.14
9/2/2010	412.78	-98.75	9750.83
10/2/2010	194.40	119.63	14312.22
11/2/2010	410.88	-96.85	9379.20
12/2/2010	267.00	47.03	2212.17
13/2/2010	339.68	-25.65	657.73
15/2/2010	429.00	-114.97	13217.25
16/2/2010	361.00	-46.97	2205.83
17/2/2010	390.50	-76.47	5847.09
18/2/2010	328.30	-14.27	203.53
19/2/2010	253.53	60.50	3660.70
20/2/2010	384.99	-70.96	5034.80
22/2/2010	248.30	65.73	4320.92
23/2/2010	468.16	-154.13	23754.91
24/2/2010	184.80	129.23	16701.35
25/2/2010	213.18	100.85	10171.47
26/2/2010	250.10	63.93	4087.52
27/2/2010	229.46	84.57	7152.71
1/3/2010	313.60	0.43	0.19
2/3/2010	480.48	-166.45	27704.37
3/3/2010	275.88	38.15	1455.71
4/3/2010	310.98	3.05	9.33
5/3/2010	370.79	-56.76	3221.28
6/3/2010	240.00	74.03	5480.99
8/3/2010	456.00	-141.97	20154.43
9/3/2010	471.51	-157.48	24798.78
10/3/2010	264.74	49.29	2429.87
11/3/2010	170.81	143.22	20513.03
12/3/2010	253.59	60.44	3653.44
13/3/2010	255.00	59.03	3484.98
15/3/2010	418.00	-103.97	10808.99
16/3/2010	337.90	-23.87	569.60
29/3/2010	405.27	-91.24	8324.06
30/3/2010	543.56	-229.53	52682.32
31/3/2010	190.80	123.23	15186.55

Standard error - Garden, yard and park waste, E (continue)

Date	Wood, wood products (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/4/2010	291.28	22.75	517.73
2/4/2010	244.72	69.31	4804.39
3/4/2010	217.75	96.28	9270.55
5/4/2010	508.98	-194.95	38004.06
6/4/2010	453.01	-138.98	19314.41
7/4/2010	233.10	80.93	6550.27
8/4/2010	281.07	32.96	1086.61
9/4/2010	236.55	77.48	6003.73
10/4/2010	216.08	97.95	9594.93
12/4/2010	367.29	-53.26	2836.23
13/4/2010	374.40	-60.37	3644.09
14/4/2010	251.79	62.24	3874.28
15/4/2010	221.00	93.03	8655.27
16/4/2010	273.00	41.03	1683.77
17/4/2010	250.04	63.99	4095.19
19/4/2010	357.00	-42.97	1846.10
20/4/2010	322.20	-8.17	66.69
21/4/2010	288.00	26.03	677.75
22/4/2010	265.60	48.43	2345.82
23/4/2010	256.00	58.03	3367.91
24/4/2010	240.00	74.03	5480.99
n = 62 √n = 7.87	Mean, m = 314.03		Sum of squared deviations, Σ(m-i) ² = 722216.25

$$\begin{aligned} \text{Standard deviation (SD)} &= \text{square root } [\Sigma(m-i)^2 / (n-1)] \\ &= \sqrt{11839.61} \\ &= 108.81 \end{aligned}$$

$$\begin{aligned} \text{Standard error (SE)} &= \text{SD} / \sqrt{n} \\ &= 108.81 / 7.87 \\ &= 13.82 \end{aligned}$$

$$\begin{aligned} \text{Standard error percentage} &= [\text{SE} / \text{mean}] \times 100\% \\ &= 13.82 / 314.03 \\ &= 4.40\% \end{aligned}$$

Standard error - Inerts (plastic, glass and metal), F

Date	Inerts (plastic, glass, metal) (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/2/2010	1389.97	-363.28	131974.58
2/2/2010	979.75	46.94	2203.08
3/2/2010	691.75	334.94	112182.75
4/2/2010	1459.35	-432.66	187197.33
5/2/2010	585.47	441.22	194672.38
6/2/2010	910.74	115.95	13443.69
8/2/2010	993.66	33.03	1090.78
9/2/2010	1435.39	-408.70	167038.19
10/2/2010	576.00	450.69	203118.71
11/2/2010	1125.64	-98.95	9791.71
12/2/2010	807.00	219.69	48262.35
13/2/2010	1281.52	-254.83	64939.89
15/2/2010	932.10	94.59	8946.69
16/2/2010	880.84	145.85	21271.33
17/2/2010	898.15	128.54	16521.74
18/2/2010	556.10	470.59	221452.06
19/2/2010	985.95	40.74	1659.50
20/2/2010	816.93	209.76	43997.97
22/2/2010	893.88	132.81	17637.68
23/2/2010	1154.44	-127.75	16320.85
24/2/2010	826.56	200.13	40050.79
25/2/2010	1130.50	-103.81	10777.15
26/2/2010	878.40	148.29	21989.02
27/2/2010	858.24	168.45	28374.37
1/3/2010	1244.10	-217.41	47268.44
2/3/2010	1729.11	-702.42	493398.16
3/3/2010	942.81	83.88	7035.34
4/3/2010	937.37	89.32	7977.51
5/3/2010	571.45	455.24	207240.67
6/3/2010	726.00	300.69	90412.63
8/3/2010	969.00	57.69	3327.78
9/3/2010	1360.79	-334.10	111624.86
10/3/2010	994.91	31.78	1009.77
11/3/2010	911.76	114.93	13208.20
12/3/2010	729.31	297.38	88433.04
13/3/2010	816.00	210.69	44388.98
15/3/2010	1152.80	-126.11	15904.51
16/3/2010	1607.75	-581.06	337634.28
29/3/2010	1172.68	-145.99	21313.97
30/3/2010	1320.80	-294.11	86502.49
31/3/2010	922.20	104.49	10917.52

Standard error - Inerts (plastic, glass and metal), F (continue)

Date	Wood, wood products (kg), i	Deviations (m-i)	Squared deviations (m-i) ²
1/4/2010	936.73	89.96	8092.25
2/4/2010	994.98	31.71	1005.33
3/4/2010	1108.25	-81.56	6652.53
5/4/2010	1494.17	-467.48	218540.42
6/4/2010	1378.88	-352.19	124039.95
7/4/2010	982.35	44.34	1965.76
8/4/2010	978.54	48.15	2318.13
9/4/2010	817.95	208.74	43571.11
10/4/2010	861.40	165.29	27319.77
12/4/2010	1154.34	-127.65	16295.30
13/4/2010	1378.08	-351.39	123477.09
14/4/2010	974.46	52.23	2727.65
15/4/2010	996.20	30.49	929.45
16/4/2010	934.50	92.19	8498.43
17/4/2010	957.39	69.30	4802.07
19/4/2010	1479.00	-452.31	204587.11
20/4/2010	1503.60	-476.91	227446.07
21/4/2010	896.00	130.69	17079.08
22/4/2010	929.60	97.09	9425.87
23/4/2010	928.00	98.69	9739.11
24/4/2010	813.00	213.69	45662.11
n = 62 $\sqrt{n} = 7.87$	Mean, m = 1026.69		Sum of squared deviations, $\Sigma(m-i)^2 = 4276687.37$

$$\begin{aligned} \text{Standard deviation (SD)} &= \text{square root } [\Sigma(m-i)^2 / (n-1)] \\ &= \sqrt{70109.63} \\ &= 264.78 \end{aligned}$$

$$\begin{aligned} \text{Standard error (SE)} &= \text{SD} / \sqrt{n} \\ &= 264.78 / 7.87 \\ &= 33.63 \end{aligned}$$

$$\begin{aligned} \text{Standard error percentage} &= [\text{SE} / \text{mean}] \times 100\% \\ &= 33.63 / 1026.69 \\ &= 3.28\% \end{aligned}$$