Determining Number of Cruise Plots Needed:
EXAMPLE:

STEP 1: Calculate the standard deviation using initial cruise data in the following formula:

$$SD = \sqrt{\sum x^2 / n - 1}$$

Where **SD** = standard deviation
    x = deviation from the mean
    n = number of samples

Assuming a 25 acre sale area, which would require an initial cruise sample of 25 plots with the following volume data, the calculation is as follows:

Plot Number	Plot Volume	Deviation from mean (x)	x^2
1	33	17	289
2	9	-7	49
3	15.5	-0.5	0.25
4	24	8	64
5	16.5	0.5	0.25
6	11.5	-4.5	20.25
7	13	-3	9
8	21	5	25
9	12	-4	16
10	19.5	3.5	12.25
11	28	12	144
12	7	-9	81
13	15.5	-0.5	0.25
14	6	-10	100
15	16.5	0.5	0.25
16	7	-9	81
17	14	-2	4
18	21	5	25
19	13	-3	9
20	20	4	16
21	12.5	-3.5	12.25
22	13	-3	9
23	20	4	16
24	12	-4	16
25	19.5	3.5	12.25
Total	400		1011
Mean	16		

$$SD = \sqrt{1011/(25-1)} = \sqrt{42.1} = 6.5$$