# POINT SAMPLING GUIDELINES

For 10-factor prism

| EQUATIONS USED IN HORIZONTAL POINT SAMPLING |
|---|
| basal area (BA) = 0.005454 x $dbh^2$ |
| basal area factor (BAF or F) = a constant set by the prism or angle gauge used in sampling (e.g. 10) |
| tree factor = BAF / the basal area of a tree of a given dbh |
| volume factor = tree factor x the volume table estimate for a tree of a given dbh and merchantable height |
| BA / acre = (number of trees tallied x BAF ) / number of sample points taken (n) |
| trees / acre = (number of trees tallied x tree factor) / n |
| volume / acre = (number of trees tallied x volume factor) / n |

| PLOT SIZE FOR VINES | SPACING IN CHAINS FOR SAMPLE POINTS PER ACRE | |
|---|---|---|
| 1/10 acre = ~37 ft. radius | 1 acre = 10 square chains | 5 x 6 chains = 1 pt. / 3 acres |
| 1/20 acre = ~26 ft. radius | 3 x 3 chains = ~1 pt. / acre | 6 x 6.5 chains = ~1 pt. / 4 acres |
| 1/30 acre = ~21.5 ft. radius | 4 x 5 chains = 1 pt. / 2 acres | 7 x 7 chains = ~1 pt. / 5 acres |
| 1/50 acre = ~16.5 ft. radius | | |

| SUGGESTED MINIMUM SAMPLE POINTS IN FOREST INVENTORY* | |
|---|---|
| Acres (A) | No. of Points (n) |
| 1-10 | 10 |
| 11-17 | 1 pt./A |
| 18 | 17 |
| 19 | 18 |
| 20 | 19 |
| 30 | 21 |
| 40 | 24 |
| 50 | 26 |
| 60 | 28 |
| 70 | 29 |
| 80 | 31 |
| 90 | 32 |
| 100 | 34 |
| 150 | 40 |
| 200 | 44 |

*$n = 10 + (2.5 \times (A - 10)^{1/2})$

For 20-factor prism, revise the above formula to $n = 1.1 \times (10 + (2.5 \times (A-10)^{1/2}))$
This is a 10% increase in number of points over 10-factor prism inventory.