

# Forest-Like Practices – Silvopasture, Farm Woodlot

1. First, save and print out the XCEL tree survey worksheet that you will use to record the inventory. Assemble the tools you will need:

1. measuring tape,
2. diameter tape, and
3. wire flag stakes or wooden stakes to mark plot centers.

It is recommended that you use a diameter tape rather than a measuring tape to measure tree diameter since no conversion to diameter is required. Pocket diameter tapes 10 ft. in length that can measure up to 38 ft. in diameter can be obtained for about \$10 from forestry equipment suppliers (see below).

2. How uniform is your forest stand? If one portion of the stand has a different mix of species, was planted at a different year, has a different soil or moisture regime resulting in different tree growth rates, etc., then you will need to treat that portion as a separate parcel for the purposes of carbon storage estimation.

3. Within each parcel, you will need to record species and diameters of trees within several fixed plots of standard size (1/20th or 0.05 acre). The sampling procedure will be easier with two people.

4. First, consult a map or aerial photo (e.g. Google Earth or Terra Server click on the More text in previous example for these links.) to determine the total size of the forest stand, to determine approximate boundaries of each parcel within the stand to be sampled, and to figure out how many samples are needed in each parcel. Parcels of 1-10 acres require measurements from two fixed plots at a minimum. Take at least one extra fixed plot for each additional 10 acres of parcel size.

5. Walk to a representative area within the forest parcel. Avoid edges, openings, disturbed areas or portions of the stand with many dead or dying trees. Then walk 25 ft. north to establish the plot center. Mark the center with a wire flag stake or wooden stake with plastic flagging.

6. The standard fixed plot is a circle with a radius of 26.3 ft. (26 ft. 4 in.). All trees taller than 4.5 ft that fall within that circle will be measured. You can sample up to six of the most common tree species of the minimum height in your stand. Less common species do not need to be measured even if they fall within the fixed plot area.

7. One person stands at the plot center holding a measuring tape or a non-stretchy string cut to length. The other person extends the tape or string out 26.3 ft. from the center. They take the diameter at 4.5 ft. above ground of all eligible trees (see #6) whose trunks are within the plot. Starting north, mark the first tree measured with plastic tape or paint so you will know where you began. For “border line” trees, the center of the tree at 4.5 ft. above ground must be within the plot boundary to be measured. Trees that fork below 4.5 ft. are measured as two trees. Continue in a clockwise direction to determine and measure “in” trees. The person at the plot center can record the species and diameter information on the worksheet as the other person rotates and makes measurements.

8. For each species, you will record the number of trees that fall within separate 2-inch diameter classes rather than the actual diameter measurements. On the tally form, hash marks or dots can be used to designate the trees as they are counted.

9. Once all eligible trees are measured in the first plot, then walk to another representative area within the parcel that is more than 60 ft. from the edge of that plot. Set the center of the next sample plot.

10. Measure the diameters and record the species and diameter classes of all eligible trees inside that plot, and continue to the next plot until all sampling is completed. Be sure to record the number of fixed plot samples taken within the parcel.