Estimating Taps Per Acre

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Maple producers need to estimate the potential number of taps per acre to assess the productive capacity of a section of woods, and to aid in estimating the costs for installing tubing systems or buckets. Two methods allow producers to collect data that estimate the number of taps. One method uses a tape measure to establish a 1/20th acre plot. The other method uses an angle gauge to select trees from a sample point. Both methods are valid and useful, but use different mathematical principles. The data will be most easily reported using a dot-dash tally system. Use approximately one plot or point per acre.

Once you know the number of taps per acre, you can compare sites.

Method 1. Fixed Radius Plot

Use a tape measure or rope to create a circular plot with a radius of 26.4'. Count all 10" dbh (diameter breast height, 4.5' above ground) and larger sugar or red maples within the plot. Stems larger than 26" could be counted twice. You do not need to record the dbh of the stem. Multiple the number of counted trees by 20 to obtain an estimate of taps per acre.

Plot #	1	2	3	4	5	6	7	8	9	10
# taps per plot										
Plot multiplier	20	20	20	20	20	20	20	20	20	20
# taps per acre										

Sum the final row and divide by the number of sample plots. Average number of taps per acre = _____

Method 2. Variable Radius Plot

Use an angle gauge at each point to count all red or sugar maple trees greater than 10" dbh and record them as TPP or "taps per point." Assign each tree to the appropriate dbh class. For each point, multiple the number of taps per point (TPP) in each DBH category by the "tree per acre" multiplier (*TPA) determined for the mid-point of each diameter class. *TPP *TPA equals taps per acre for that DBH category.* Sum a row of TPA= into the final column to estimate taps/acre. Sum the final column, and divide the sum by the number of sample points for the average number of taps per acre. Use one sample point per acre.

POINT		DBH Category (inches)											Σ
		10-11.9	12-13.9	14-15.9	16-17.9	18-19.9	20-21.9	22-23.9	24-25.9	26-27.9	28-29.9	30+	
	*TPA>	15.2	10.8	8.1	6.3	5.1*2	4.2*2	3.5*2	2.9*2	2.5*2	2.2*2	1.8*2	
1	TPP												
	TPA=												
2	TPP												
	TPA=												
3	TPP												
	TPA=												
4	TPP												
	TPA=												
5	TPP												
	TPA=												
6	TPP												
	TPA=												
7	TPP												
	TPA=												
8	TPP												
	TPA=												

(sum of final column) / (number of sample points) = average number of taps per acre _____