

# Tapping guidelines for maple syrup production

Guidelines for tapping maple trees have existed for well over 100 years. Early tapping guidelines came about when buckets (gravity collection) were the only technology available for harvesting sap. New tapping guidelines are based on years of research into maple tree growth, sap harvesting practices/technology and a recognition that tree diameter alone does not fully explain all the factors that determine if tapping intensity in a given sugarbush is sustainable.

Tree Conditions <sup>2</sup>	Collection Practices <sup>3</sup>	Spout Diameter (inches)	Tapping Depth <sup>4</sup> in / cm	Minimum Tree Diameter <sup>5</sup> in / cm	Number of Taps
<b>Conservative</b>					
Optimal	Gravity	7/16	1-2.5 / 2.5-6.4	12+ / 31+	1
Suboptimal	Gravity or Vacuum	1/4-5/16	1-1.5 / 2.5-3.8	12+ / 31+	1
<b>Standard</b>					
Optimal	Gravity or Vacuum	1/4-5/16	1.5-2 / 3.8-5	9-12 / 23-31	1
				18-22 <sup>6</sup> / 46-56	2

<sup>1</sup>Tree diameter should be adjusted downward to an “effective” diameter if there is evidence of stem defects (insect or animal damage logging wounds trunk cracks or scars cluster tapping etc).

<sup>2</sup>Optimal conditions include trees that are healthy with good growth rates no history of overtapping and NCW (stained wood) is not frequently encountered during tapping Suboptimal conditions are trees that have slower growth rates are in a “suppressed” position in the forest canopy have been recently stressed or are exhibiting signs of stress (dieback fine twig mortality slow wound healing etc) have a history of overtapping or if NCW (stained wood) is frequently encountered during tapping Conditions are a range the more “Suboptimal” conditions that are observed the more conservative the practices (shallower depths smaller-diameter spouts larger minimum tree diameter for first or second tap etc.) that should be selected Likewise the more “Optimal” conditions that are observed the less conservative tapping practices can be selected.

<sup>3</sup>All practices assume a dropline length of 36-42 inches (92-107 centimeters) for collection with tubing.

<sup>4</sup>Tapping depth includes bark If the stand has a preponderance of older thickly barked trees up to an additional 1/2 inch of depth may be added.

<sup>5</sup>To convert diameter to circumference multiply the diameter by 3.14.

<sup>6</sup>The lower portions of the diameter range should be used with gravity and vacuum collection at less than 20” Hg. The upper portion of the diameter range should be used with vacuum collection greater than 20”Hg since the additional yield from a second taphole is negligible in trees of smaller diameters at high vacuum levels In many cases producers using high vacuum will only use one tap per tree regardless of size.

**Table 6.1 Tapping Guidelines based on tree diameter, tree condition and sap collection method.**

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Chapter 6: Maple Sap Production- Tapping, Collection and Storage

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