

Report on Sugarbush Health Survey 1977-1985

Department of Forests, Parks and Recreation

How the Survey Was Done

In the summer of 1985, a statewide sugarbush survey was conducted to determine if a change in tree condition had occurred since 1977, when a similar survey was done. A total of 54 sugarbushes were examined. Of these 25 were considered to have been in good or excellent condition overall in 1977, and 20 were considered to have been in average or poor condition. An additional 5 sugarbushes were known to have been completely defoliated by forest tent caterpillars at least once since 1977. Only non-defoliated sugarbushes are included in the results below.

In each sugarbush sample plot, all of the trees on five 1/5-acre plots were examined for overall crown condition, specific damage symptoms, tapping history, and rate of growth. Trees were rated healthy if they had green foliage, normal-sized leaves and less than 10% dead branches. Stumps from recently cut trees in the sample plots were accounted for in the results. Other information that was included recent history (such as grazing, defoliation, cutting and tapping) and site (such as slope and elevation). Detailed information about the soil was also gathered with the cooperation of the University of Vermont and the Soil Conservation Service. Individual reports summarizing the condition of each sugarbush have been prepared and sent to the sugarbush owners. The data summarized below concerns only dominant and dominant sugarbushes. These trees receive adequate sunlight and don't suffer from competition with neighboring trees.

Survey Results
Statewide, the average condition of sugarbushes, based on the percent of trees which were healthy, did not change between 1977 and 1985. This is true whether healthy or unhealthy sugarbushes were being general healthy or unhealthy in 1977. There were more sugarbushes which were the percentage of healthy trees significantly improved between 1977 and 1985 than declined, as indicated in the table below.

	Number Declined	Number of Sugarbushes which:	
		Stayed the Same	Improved
Sugarbushes Rated Good or Excellent in 1977	5	14	6
Sugarbushes Rated Fair or Poor in 1977	3	9	8

Survey Results
In general, healthier sugarbushes were less disturbed by woods roads. They were on less acidic soils, on slopes more likely to be facing east than west, had faster growing trees, and trees more likely to heal tapwounds quickly. Sugarbushes which improved since 1977 had fewer tapwounds with logging injuries and stem rot. Sugarbush health was generally unrelated to elevation or location in the state.

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 conc usio fro this survey for e fol wing reasons:

- suga shes are not represent ive of the people wood
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 colle ing perations, they are more ikely to be o
 facio slop s, trees are less crowded and there are
 ree ecid other than sugar maple. To get a best
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 ore and a statewide hardw d heath survey was ed
- he o ht y ars covered by the survey are short n fe
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 suga shes surveyed. These e vary usly overlapp
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 y na ral ests or affected by unfav rable weather dards
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Recommendations for Maintaining Healthy Trees in a Sugar
 General Recommendations that can be based on results of wood
 survey and (1) limit the number of wood roads; (2) avoid
 injuries, such as possible especially during the spr
 careful thinning, and liming; (3) make period
 thinning to improve tree growth and to avoid the amount the li
 disturbance associated with a sudden heavy thinning. To and
 minimize damage and remove the poorer condition trees years
 should be marked when leaves are but logged during th

since a variety of factors influence tree health, a sided,
 ly a foreer may be advisable to problem sugar bushes
 ncluded this survey. A soil analysis may also be hatched
 more case ch is needed into the benefits of liming and. It i
 fert liza on at different rates but for extremely acid or whe
 pH less an 4.5), liming could be the single most bene
 approach, improving soil condition.

For More Information Contact
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