

# WHAT'S NEW IN YOUR SUGARBUSH?

By Kathy Hopkins

On Tuesday, October 23, 2001, a group discussion was held in St. Cloud at the NAMSC/IMSI annual meetings. This event, held for the first time, proved to be extremely popular with conference attendees. Because of the high level of interest, participants divided into three large groups to discuss three major areas of maple production issues: the sugarbush, the sugarhouse, and marketing. Colin Campbell of Uihlein Research Station in New York, Mike Demchik, Minnesota Agroforestry Specialist, and Kathy Hopkins of the University of Maine facilitated the discussions and Kirstin Waddell and Joe Polak recorded discussion notes from each group. Participants shared a great deal of information during the course of the evening and several avenues of research were suggested. Following are the summarized notes from the discussions.

## SUGARBUSH

*Guidelines for thinning.* When is a tree over mature and should be removed. If you can find good wood the sap may be sweeter but avoid over tapping. Harvest to release younger trees. Harvest early so young trees can develop into good sap trees, not log trees. Short log and wide crown vs. long log and small crown trees can develop into good sap trees.

*Tapping - pole and mature multiple stems.* If joined above ground do not remove a leader or the other may fail.

Alternate stems when tapping if combined stem diameters are less than 18 inches total.

*Girdling is useful to avoid damaging other trees when felling.* Wait for limbs to die and fall then drop the main trunk.

*Fertilizing.* Soil testing is recommended. Foliar as well. Fertilizing has been used successfully as well as liming to control pH. Need a standard nutrient level recommendation for sugar maple and amount of fertilizer and timing of application within the soil testing facility.

*Tap rental.* Include in contract: \$.25 - \$.45 per tap, casual agreements run from 1 gallon syrup/33 taps to 1 gallon syrup/100 taps.

## LEASING CONTRACTS

*Tree value vs. sap value.* Longer term value to the landowner with tap rental vs. saw timber. Need for publication to establish the cost benefit analysis for long term management for saw timber production. The amount offered by many loggers for a complete harvest is comparable to the value of one year's production and then there are no trees to tap afterwards.

*Train foresters in maple management.* Many loggers have told maple producers that tapping completely ruins the tree for saw timber value. Educate foresters and producers that proper harvesting with syrup production will yield the greatest return.

*Loss of stump value.* Niche markets do exist for the tapped and stained portion of the saw log, termed "hammered wood" in some markets.

*Protection of tree for tie back.* Do not use sap tubing over wire, use

staves or blocks pressure treated or dense wood species. Use a small polyethylene pipe inside a large diameter for a tieback that can easily be adjusted. Move tieback up or down every few years.

*How to install tubing literature.* Sources for tubing installation include the manufacturer, association sponsored demonstrations, and manuals.

*Squirrels.* Discussed eliminating conifers as habitat, food sources, water from washing may attract, wear gloves when working on tubing. Discussed baiting and trapping. Non lethal methods included wire mesh around manifolds and mainline. Promote fishers, foxes, feral cats and other predators. Other animals that affect tubing: Deer, moose, raccoons, bear, coyote, woodpecker, mice, chipmunks.

## SUGAR HOUSE

*Sugar House Plans.* Large, facing south, wood storage, floor drain under evaporator, raise evaporator (pit for ashes), Smithsonian website for plans, large enough for expansion double it, work with inspectors, shatter proof bulbs, ground faults, keep sap cool, sap storage, open vat with ultra violet light, syrup storage insulated rooms, clean out space for brushing, lots of room around evaporator to work, hood 12" above syrup (front) pan, 16-18" with plexiglass, make sure steam stacks are large enough, size of stacks for size of evaporator, pan configuration with and without RO, steam and cool, etc. hot water off piggy back/steam away clean pans, floor, drums, filters collect in sink to clean with, keep water on hand to prevent burning of front pan,

hot water tank, covers, visit other sugar houses.

Cross flow pans avoid potential burning due to thicker areas, clean everyday, don't have to switch. Consider separate finishing pan, automatic shutoff of oil supply tied to syrup (marland), call dealer for instructions filter through flannel bags before finishing pan or let settle in buckets, diaphragm pump for pumping cold syrup, swimming pool filter for raw sap with paper filter that is clogging with sugar (for RO) helps to use preheater water to clean, back-flushing?

Research white spots in candy and cream? UV inline filters. Engineering ideas: submersible pump in vacuum tank to pump out sap; vacuum pump tied to temperature gauge that is triggered by temperature, also includes a float switch. Cleanliness is key! Don't use chlorine bleach! Don't use all pine to burn with: hot spots, sparks, creosote problems. Line cleaning with hydrogen peroxide - research shows air/water combination works just as well.

### *Pan cleaning*

Use last of sap, let it sit and ferment (not with tin).

### *Organic certification.*

Standardization of licensing requirements.

Comparison of states/provinces.

How does type of maple affect quality of syrup?

### *Layering in syrup.*

Amount of DE added to syrup for filtering.

Use only food grade plastic containers (food grade materials) for sap collection.

Watch oxygen aspiration in plastic

containers. Drop a grade, affects flavor - keep cool, dry, dark, use asap.

## MARKETING

Value-added Products - increases customer base.

Challenges: time constraints, developmental help, purity, cost issues, single-use containers - potential for irradiation, cotton candy, breads, sugar, candy-coated peanuts, soft serve ice cream, dressing, BBQ sauce, cream, candy.

## TARGET MARKETS

Food and lodging associations, specialty restaurants, mail order, craft shows, state and county fairs, pancake breakfasts, mobile sugarhouse.

## MARKET PLAN

Market to high end customers, find the hidden expenses, agritourism, grant money, package well when shipping, LLC, UPS provides data base for your computer with bar codes and labels, state marketing board, universal grade systems - confusing to lay people with different grades and names in different states. Educating vendors on product care and display. No minimum and willingness to buy back unsold product, coding insurance, lot codes to track batches, educate potential customers, maple videos for public including school tours.

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