
EDUCATIONAL NEEDS OF NORTHERN NEW YORK MAPLE PRODUCERS AS THEY RECOVER FROM THE JANUARY 1998 ICE STORM



December 1999

HDRU Series No. 99-7

Prepared by

Nancy A. Connelly, Tommy L. Brown, Lew Staats, and Peter J. Smallidge

Human Dimensions Research Unit
Department of Natural Resources
Cornell University
Ithaca, NY 14853-3001

HUMAN DIMENSIONS RESEARCH UNIT PUBLICATIONS SERIES

This publication is part of a series of reports resulting from investigations dealing with public issues in the management of wildlife, fish, and other natural resources. The Human Dimensions Research Unit (HDRU) in the Department of Natural Resources at Cornell University is a nationally-recognized leader in the study of the economic and social values of wildlife, fish, and other natural resources and the application of such information in management planning and policy. A list of HDRU publications may be obtained by writing to the Human Dimensions Research Unit, Department of Natural Resources, Fernow Hall, Cornell University, Ithaca, NY 14853, or by accessing our World Wide Web site at: <http://www.dnr.cornell.edu/hdru>.



Educational Needs of Northern New York Maple Producers

As They Recover From The January 1998 Ice Storm

by

Nancy A. Connelly, Tommy L. Brown, Lew Staats, and Peter J. Smallidge

HDRU Series 99-7

December 1999

ACKNOWLEDGMENTS

We thank Cornell Cooperative Extension educators (Steve VanderMark, Mike Hunter, and Beth Spaugh), FSA staff, and Lyle Merle of the New York State Maple Producers Association for providing us the names of maple producers in Northern New York.

A special thanks to HDRU staff member, Leen Boon, who implemented the survey and entered the data on computer. Margie Peech assisted with table preparation and report formatting.

Funding and support for this study was provided by the USDA Forest Service Northeastern Area State and Private Forestry and the New York State Department of Environmental Conservation, Division of Lands and Forests.

TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| Acknowledgments | i |
| List of Tables | iii |
| Introduction | 1 |
| Methods | 2 |
| Results and Discussion | 3 |
| Mail Survey Response | 3 |
| Characteristics of Responding Maple Producers and Their Operations | 3 |
| Past Participation in Educational and Financial Programs | 5 |
| Evaluation of Educational Programs Since the Ice Storm | 6 |
| Future Educational Needs | 9 |
| Effect of the Ice Storm on Producers' Thinking about Sugar Bush Management | 12 |
| Conclusions and Recommendations | 15 |
| Literature Cited | 16 |
| Appendix A: Mail Questionnaire | 17 |

LIST OF TABLES

| <u>Table</u> | <u>Title</u> | <u>Page</u> |
|--------------|--|-------------|
| 1 | Types of equipment used by maple producers | 5 |
| 2 | Sources of information used by maple producers after the ice storm, overall and by county | 7 |
| 3 | Evaluation of information received from the Cornell Maple Program and Cornell Cooperative Extension after the ice storm | 8 |
| 4 | Interest of maple producers in topics for future Cornell Cooperative Extension communications, overall and by county | 10 |
| 5 | Interest of maple producers in information on alternative income sources | 12 |
| 6 | Best methods to use when communicating with maple producers | 13 |
| 7 | Sources maple producers would go to for advice on new sugar bush management strategies | 14 |

INTRODUCTION

The ice storm that occurred in January 1998 significantly damaged sugar bushes in six Northern New York State counties (Lewis, Jefferson, St. Lawrence, Clinton, Franklin, and Essex). One year later maple producers were still assessing the impacts of the storm and trying to determine how best to continue their maple syrup operations.

Cornell University's Human Dimensions Research Unit (HDRU) was funded to assess the human impacts of sugar bush damage, evaluate educational efforts to date, and assess future educational needs. To accomplish these goals, we surveyed maple producers by mail in the ice storm damaged area. The specific objectives for the survey were as follows:

1. Identify characteristics of maple producers and their properties before and after the storm.
2. Evaluate maple producers' perceptions of educational materials available since the ice storm.
3. Determine future educational needs and preferred method(s) for reaching maple producers. Also, assess interest in and educational needs for alternative income-producing activities, while producers wait for their sugar bush to recover.
4. Determine the effect of the ice storm on producers' plans for management of their sugar bush.

METHODS

We attempted to survey all maple producers in the six-county Northern New York ice storm damaged area by gathering names and addresses from a variety of sources. We combined lists maintained by county offices of Cornell Cooperative Extension (CCE) with: (1) lists from Farm Service Agency (FSA) offices where maple producers could have applied for federal assistance after the ice storm, (2) the membership list from the New York State Maple Producers Association, and (3) names and addresses provided on the evaluations by attendees at the 1999 Cornell maple production school - satellite conference. A majority of names from the above sources were on the CCE list. However, 60% of the FSA list was not on the CCE list; thus we included some producers not currently reached by Cooperative Extension. We identified a total of 501 maple producers living in the six-county area, who formed our survey population.

The questionnaire was developed after discussions with CCE educators in the area and members of the Cornell Maple program. The questionnaire asked about past program participation, future educational needs, changes in management thinking, and characteristics of the maple producer's operation. See Appendix A for exact content and wording of the mail questionnaire.

Questionnaires were mailed to the 501 maple producers we identified in late April, 1999. Up to three follow-up mailings were sent to nonrespondents over the course of the following month. Returned questionnaires were entered onto the computer and analyzed using SPSS software (SPSS Inc. 1994).

In the analysis we defined a group of producers who were using the most recently developed equipment to see if they had different educational interests than other producers. We defined these "progressive" producers as those who used one of the following pieces of equipment: (1) refractometer, (2) reverse osmosis, (3) piggy-back / steam-away units, or (4) UV sterilization light.

RESULTS AND DISCUSSION

Mail Survey Response

Of the 501 questionnaires mailed, one was undeliverable and 227 completed questionnaires were returned. This resulted in an adjusted response rate of 45%. The response rate was slightly higher for residents of St. Lawrence County (55%) and slightly lower for residents of Clinton/Essex/Franklin Counties (35%). Names from the FSA list garnered a response rate of 52%; from the New York State Maple Producers Association a response rate of 61%; and from the CCE list a response rate of 45%.

Characteristics of Responding Maple Producers and Their Operations

Respondents owned or leased an average of 75 acres of sugar bush. There were a few large operations, but half of the respondents owned or leased less than 30 acres. Just over half (54%) of the respondents said their entire sugar bush was damaged during the January 1998 ice storm; 20% experienced no damage, and the remainder experienced some damage. Respondents indicated they placed a total of 391,000 taps before the ice storm, but only 164,000 in 1998 after the storm and 219,000 in 1999. Most maple

producers (73%) owned forestland in addition to their sugar bush and most (76%) owned other nonforested open space.

Maple syrup production is often thought of as a traditional family activity passed down through the generations. Our respondents averaged 41 years of family involvement in maple production and thus seemed to fit that description. Maple production also is often thought of as contributing only a small amount to household income. Our respondents averaged only 9% of household income from maple production before the ice storm; half received less than 5% from maple production.

Several characteristics of maple producers and their operations were used to portray differences in use of educational resources. The first, and probably most obvious, was the size of the maple syrup operation as measured by the number of taps operated. Producers were divided into three groups based on the number of taps they operated before the ice storm: (1) small operations with 500 or fewer taps (29%), (2) medium-sized operations with 501-2000 taps (46%), and (3) large operations with over 2000 taps (25%). There was a high correlation between the number of taps and the number of gallons of syrup produced (0.87), but lower correlations between the number of taps and (1) percent of household income derived from syrup production (0.40), and (2) acres of sugar bush owned or leased (0.19).

Maple producers used a variety of types of equipment (Table 1). Most used wood evaporators, hydrometers/thermometers, and a tubing collection system, but over half also used buckets. "Progressive" producers, defined on page 3, comprised 24% of all

Table 1. Types of equipment used by maple producers.

| <u>Equipment Used</u> | <u>Percent Checking^a</u> |
|-----------------------------|-------------------------------------|
| Wood evaporator | 74.7 |
| Hydrometer/thermometer | 72.4 |
| Tubing collection system | 66.8 |
| Bucket collection system | 56.7 |
| Sap pre-heater | 34.6 |
| Filter press | 25.8 |
| Vacuum pump | 22.6 |
| Oil evaporator | 20.7 |
| Forced draft evaporator | 17.5 |
| Refractometer | 12.4 |
| Reverse osmosis | 9.2 |
| Piggy-back/Steam-away units | 9.2 |
| UV sterilization light | 7.8 |

^aPercentages add to more than 100% because respondents could use more than one type of equipment.

respondents. A little over half of these progressive producers (56%) had large operations, but "progressive" does not equate with "large."

Past Participation in Educational and Financial Programs

Most respondents (74%) had gotten information on maple production from the Cornell Maple Program or Cornell Cooperative Extension prior to the ice storm. Half of all respondents typically spent 10 hours or less per year on continuing education efforts; the rest spent between 11 and 100 hours. Of those who had not gotten information prior to the storm, 51% got information from some source after the storm.

These people (13% of all respondents) are "new" to the educational system, likely as a result of the ice storm.

Almost half (49%) of the respondents had received some financial assistance for losses due to the ice storm. Most had received compensation from FSA programs, primarily the Emergency Conservation Program (ECP) (85%), and to a lesser extent the Stewardship Incentive Program (SIP) (16%) and NAP/CLDAP (crop loss programs) (11%). A few respondents (9%) knew they had received assistance but could not identify the programs.

Evaluation of Educational Programs Since the Ice Storm

Most respondents (73%) had received information about what to do with their sugar bush after the January 1998 ice storm. Producers most likely to have received information fell into one of the following three groups: (1) those who had gotten information from CCE prior to the ice storm, (2) those who spent 11 or more hours on continuing educational opportunities, or (3) those classified as progressive producers (81-88%). Respondents living in Lewis County and the few respondents from Jefferson County were less likely to have received information about what to do with their sugar bush since the ice storm (58%). This is probably because only a small portion of Lewis County had ice damage; most of the damage there was from flooding.

The Cornell Maple Program and Cornell Cooperative Extension were the most often cited source of information received after the ice storm (Table 2). This was less often the case in St. Lawrence County than elsewhere. Producers most likely to have received information from Cornell's program fell into one of the following three groups:

Table 2. Sources of information used by maple producers after the ice storm, overall and by county.

| <u>Sources of Information After the Ice Storm</u> | <u>Overall</u> | <u>Clinton, Essex, and Franklin Counties</u> | <u>St. Lawrence County</u> | <u>Lewis and Jefferson Counties</u> |
|--|----------------|--|------------------------------------|---|
| | | <u>Percent Checking^a</u> | | |
| Cornell Maple Program and Cornell Cooperative Extension | 70.9 | 82.7 | 59.0 | 82.1 |
| Farm Service Agency | 60.1 | 53.8 | 71.8 | 39.3 |
| NYS Maple Producers Association | 44.9 | 46.2 | 39.7 | 57.1 |
| Dept. of Environmental Conservation | 33.5 | 11.5 | 52.6 | 21.4 |
| Friends/neighbors/family members | 25.9 | 26.9 | 26.9 | 21.4 |
| Consulting foresters, loggers, sawmill operators | 19.6 | 15.4 | 24.4 | 14.3 |
| Elected government representatives | 5.7 | 9.6 | 3.8 | 3.6 |
| Other sources | 4.4 | 3.8 | 5.1 | 3.6 |

^aPercentages add to more than 100% because more than one source could be indicated.

(1) those who had gotten information from CCE prior to the ice storm, (2) those who spent 11 or more hours on continuing educational opportunities, or (3) those classified as progressive producers.

FSA was the second most often cited source of information after the ice storm (Table 2). FSA administered several programs that provided financial assistance to maple producers with tree damage and loss of production. Producers in St. Lawrence County were more likely to have gotten information from FSA than producers in Clinton/Essex/Franklin Counties or Lewis/Jefferson Counties. Again, the lower use of FSA as a source of information in Lewis and Jefferson Counties is likely due to the less severe impact of the storm in Lewis County.

The New York State Maple Producers Association and the Department of Environmental Conservation (DEC) were sources of information for over one-third of respondents (Table 2). Use of DEC as a resource was highest in St. Lawrence County.

Respondents rated the usefulness of Cornell materials and programs provided after the ice storm and found most sources useful. The most frequently used sources were written publications - "Trees & Ice - After the Storm of 1998" and other mailings/newsletters (Table 3). These were rated very useful by over one-third of those who used them. The basic written materials of mailings and newsletters were more useful to those who had not accessed Cooperative Extension materials prior to the ice storm. Personal contacts with Cornell staff and the Cornell maple production school - satellite conference, while accessed by slightly fewer people, were rated as very useful by

Table 3. Evaluation of information received from the Cornell Maple Program and Cornell Cooperative Extension after the ice storm.

| <u>Information from Cornell Maple Program and Cornell Cooperative Extension</u> | <u>Percent Evaluating Information</u> | <u>Of Those Evaluating Information:</u> | |
|---|---|---|---|
| | | <u>Percent Indicating Information Very Useful</u> | <u>Mean Usefulness Rating^a</u> |
| "Trees & Ice - After the Storm of 1998" | 44.5 | 36.6 | 4.0 |
| Mailings/newsletters | 41.4 | 36.2 | 4.0 |
| Workshops or meetings | 33.0 | 33.3 | 3.9 |
| Personal contact | 31.3 | 43.7 | 4.1 |
| Cornell maple production school - satellite conference | 29.1 | 45.5 | 4.0 |
| Field demonstrations/visit to sugar bush | 23.8 | 35.2 | 3.6 |
| 1998 NYS Maple Tour | 10.6 | 29.2 | 3.2 |

^aUsefulness was rated on a 5-point scale where 1=not useful and 5=very useful.

the largest percentage of people. Those who spent 11 or more hours on continuing education found the satellite school even more useful (mean=4.2, on a 5-point scale where 1=not useful and 5=very useful). The 1998 New York State maple tour was attended by the fewest respondents; they rated its usefulness lower than other sources of information.

Future Educational Needs

Sugar bush management and sugar bush damage assessment were the topics most often cited by respondents as important for future educational communications (Table 4). Examples of specific topics that might be covered under these two broad categories include: (1) rehabilitation techniques for damaged trees, (2) fertilization, (3) replanting saplings, (4) which trees should be cut, and (5) time frame for tree recovery. Other topics mentioned by over 40% of respondents included: (1) collection and processing of sap, and (2) how other locations with ice storm damage dealt with sugar bush recovery efforts.

A few differences in interests were noted by county, with respondents in St. Lawrence County particularly interested in sugar bush damage assessment (Table 4). Marketing and promotion of maple products was more often selected by respondents from Lewis and Jefferson Counties than residents of other counties. Clinton, Essex, and Franklin County respondents were more interested than others in learning more about changes taking place in the kinds of plants and animals in the sugar bush as a result of the ice storm.

Table 4. Interest of maple producers in topics for future Cornell Cooperative Extension communications, overall and by county.

| <u>Topics</u> | <u>Clinton, Essex, and Franklin Counties</u> | | <u>St. Lawrence County</u> | <u>Lewis and Jefferson Counties</u> | <u>Most Important Topic</u> |
|--|--|-------------------------------------|----------------------------|-------------------------------------|-----------------------------|
| | <u>Overall</u> | <u>Percent Checking^a</u> | | | |
| Sugar bush management | 62.2 | 61.5 | 61.4 | 65.1 | 31.4 |
| Sugar bush damage assessment | 59.2 | 58.5 | 71.6 | 34.9 | 21.2 |
| Collection and processing of sap | 52.6 | 61.5 | 44.3 | 55.8 | 9.5 |
| How other locations with ice storm damage dealt with sugar bush recovery efforts | 42.9 | 44.6 | 42.0 | 41.9 | 2.9 |
| Wildlife damage control to help ice-damage recovery | 36.7 | 38.5 | 33.0 | 41.9 | 2.9 |
| Marketing and promotion of maple products | 35.4 | 35.4 | 27.6 | 51.2 | 13.9 |
| Financial assistance programs for ice storm recovery | 34.2 | 35.4 | 39.8 | 20.9 | 6.6 |
| Tax implications of financial assistance programs | 32.1 | 36.9 | 35.2 | 18.6 | 1.5 |
| Production of maple products beyond sap | 28.6 | 30.8 | 28.4 | 25.6 | 2.9 |
| Changes taking place in the kinds of plants and animals in the sugar bush as a result of the ice storm | 26.2 | 35.4 | 26.4 | 11.6 | 2.9 |
| Business management, economics of recovery | 25.6 | 32.8 | 21.6 | 23.3 | 4.4 |
| Safety in the sugar bush | 23.1 | 30.8 | 17.2 | 23.3 | 0.0 |

^aPercentages add to more than 100% because respondents could check more than one topic.

Maple producers with large operations (>2000 taps) were more likely than smaller producers to be interested in the following topics:

- how other locations with ice storm damage dealt with sugar bush recovery efforts (59% of producers with large operations were interested in this topic),
- financial assistance programs for ice storm recovery (59%),
- business management, economics of recovery (44%), and
- tax implications of financial assistance programs (43%).

Progressive producers were more likely than others to be interested in the following topics:

- marketing and promotion of maple products (54% of progressive producers were interested in this topic), and
- financial assistance programs for ice storm recovery (54%).

Those producers who spent 11 or more hours on continuing education pursuits were more likely to be interested in a variety of topics such as:

- how other locations with ice storm damage dealt with sugar bush recovery efforts (56%),
- tax implications of financial assistance programs (46%),
- changes taking place in the kinds of plants and animals in the sugar bush as a result of the ice storm (34%), and
- business management, economics of recovery (34%).

About three-fifths of maple producers expressed some interest in learning more about alternative sources of income as they wait for their sugar bush to recover. The two most frequently cited topics were ginseng production and timber harvest of damaged maple (Table 5). Mushroom production was more likely to be of interest to smaller

Table 5. Interest of maple producers in information on alternative income sources.

| <u>Information on Alternative Income Sources</u> | <u>Percent Checking^a</u> |
|--|---|
| Ginseng production | 32.2 |
| Timber harvest of damaged maple | 27.1 |
| Mushroom production | 17.6 |
| Leasing undamaged trees for tapping | 13.6 |
| Leasing land for hunting or other recreational uses | 10.1 |
| Other sources | 3.0 |
| No other sources, only interested in maple syrup production | 39.2 |

^aPercentages add to more than 100% because respondents could check more than one topic.

producers (29%) and leasing of undamaged trees for tapping was more likely to be of interest to progressive producers (23%).

Most producers (and virtually all small producers [98%]) indicated that one of the best ways to reach them was via newsletters or special mailings (Table 6). Workshops, the Cornell maple production school, and visits to demonstration areas were mentioned by 20% to 30% of respondents. Computer-related sources of information were not popular with this audience. Methods of communication of greatest interest to progressive producers were workshops (61%), Cornell maple production school (54%), and visits to demonstration areas (37%).

Effect of the Ice Storm on Producers' Thinking about Sugar Bush Management

Almost half (46%) of the producers said they thought about the possibility of future ice storms when they made changes to their current maple syrup operation.

Table 6. Best methods to use when communicating with maple producers.

| <u>Best Ways to Reach Producers</u> | <u>Percent Checking^a</u> |
|---|-------------------------------------|
| Newsletter/special mailing | 88.5 |
| Local workshops/meetings | 32.0 |
| Cornell maple production school | |
| satellite conference | 27.0 |
| Visits to demonstration areas | 18.5 |
| CD-ROM disk that can be used on your computer | 17.0 |
| Web site on the Internet | 15.5 |
| Cornell Cooperative Extension lending library with videos and books | 14.5 |
| Notices on a listserv that comes to you as an e-mail | 6.5 |

^aPercentages add to more than 100% because respondents could choose more than one method of communication.

Those who are thinking about the possibility of future ice storms were more likely to be interested in learning more about the changes taking place in the kinds of plants and animals in the sugar bush as a result of the storm. They were also more likely to be interested in learning about the tax implications of the financial assistance programs.

Only 17% of all producers, but 28% of progressive producers, said they would do things differently if they were starting a new sugar bush as a result of their ice storm experiences. Most of these people said they would do less thinning and leave other tree species in with the maples. One producer said, "Where I thinned I had more damage." A few said they would leave less tubing in the sugar bush and some said they would do more pruning of trees so that ice build-up wouldn't cause as much heavy damage.

About one-third (35%) of producers said their long-term (10+ years) management goals had changed because of the ice storm. Most said they were tapping less, downsizing, and doing more conservative tapping. A few discussed the loss of future income as it would affect their retirement and ability to pay land taxes.

Most producers who were contemplating new management strategies said they would contact the Cornell Maple Program and Cornell Cooperative Extension if they wanted advice (Table 7). Two-fifths would contact consulting foresters and roughly one-third would contact DEC or FSA.

Table 7. Sources maple producers would go to for advice on new sugar bush management strategies.

| <u>Sources of Advice for New Management Strategies</u> | <u>Percent Checking^a</u> |
|---|-------------------------------------|
| Cornell Maple Program and Cornell Cooperative Extension | 74.6 |
| Consulting foresters | 42.3 |
| FSA | 36.6 |
| Friends/neighbors/family members | 36.6 |
| DEC | 33.8 |
| NYS Maple Producers Association | 31.0 |
| Other sources | 9.9 |

^aPercentages add to more than 100% because respondents could seek advice from more than one source.

CONCLUSIONS AND RECOMMENDATIONS

The overall recommendation that we can make for the Cornell Maple Program is: "Keep up the good work." We base this on the following: (1) the program is well known among producers, (2) the information produced was found useful by most people, and (3) Cornell is the source producers are most likely to turn to when they want advice on new management strategies. However, there is always room for change and improvement. There are five specific recommendations we can make based on this study:

1. Most maple producers are interested in learning more about sugar bush damage assessment and sugar bush management as they recover from the ice storm. Future educational efforts should focus on these areas. Also, maple producers are interested in learning how other locations with ice storm damage have dealt with sugar bush recovery efforts.
2. Some attention should be given to providing producers with information on alternative sources of income as they wait for their sugar bush to recover. The topics of most interest were ginseng production and timber harvest of damaged maple.
3. The results suggest that the value of the New York State Maple Tour should be examined more closely. Few respondents participated and those who did rated its usefulness below the mid-point on a scale from not useful to very useful. Possibly the benefits of this tour are greater to a wider audience than Northern New York maple producers. This needs to be examined further.

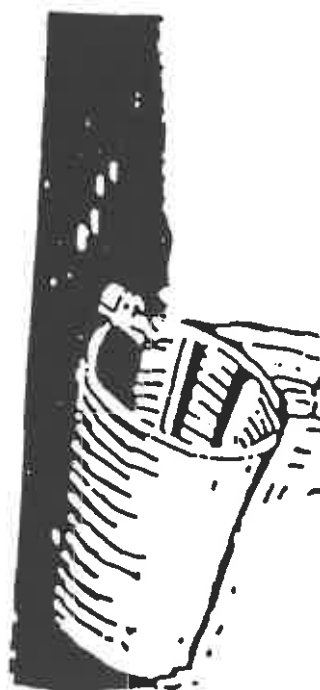
4. Written material was used by more people, but the more in-depth educational opportunities (e.g., the satellite conference) were rated more useful, especially by those more involved in continuing education. Thus, we would recommend a balance of educational opportunities be provided. Currently, computer-related sources of information are not popular with this audience.
5. The ice storm has brought some new people into the educational sphere. The Cornell Maple Program might best address this group's needs by providing information via newsletters and special mailings; these techniques were rated very useful after the ice storm by this audience.

LITERATURE CITED

SPSS Inc. 1994. SPSS 6.1 syntax reference guide. SPSS Inc., Chicago IL.

APPENDIX A:**Mail Questionnaire**

EDUCATIONAL NEEDS OF NORTHERN NEW YORK MAPLE PRODUCERS



Human Dimensions Research Unit
Department of Natural Resources
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Fennell Hall, Cornell University, Ithaca, N.Y. 14853



**EDUCATIONAL NEEDS OF
NORTHERN NEW YORK
MAPLE PRODUCERS**

**Research conducted by the
Human Dimensions Research Unit
in the Department of Natural Resources
Cornell University**

The purpose of this survey is to learn more about your needs for educational resources and how the Cornell Maple Program and Cornell Cooperative Extension can best meet your needs. We are particularly interested in people's needs as they recover from the January 1998 ice storm. We would also like your evaluation of educational materials you have received thus far as you recover from the ice storm. Results from this survey will help the Cornell Maple Program and Cornell Cooperative Extension, lead by Lewis Staats and others at Cornell, to improve and develop new educational materials to meet your needs.

Please complete this questionnaire at your earliest convenience, seal it, and drop it in any mailbox (no envelope is needed); return postage has been provided. Your responses will remain confidential and will never be associated with your name. The questionnaire has an identification number so your name can be crossed off our list when you return it. Your prompt response will save us postage and keep us from bothering you with unnecessary reminder letters.

THANK YOU FOR YOUR HELP!



Printed on recycled paper

EVALUATION OF EDUCATIONAL MATERIALS

1. Have you received information about what to do with your sugar bush after the January 1998 Ice Storm?

_____ No (SKIP TO QUESTION 3)

_____ Yes → What was the source(s) of the information received? (Please check all that apply.)

- _____ Cornell Maple Program and Cornell Cooperative Extension
 _____ Department of Environmental Conservation (DEC)
 _____ Farm Service Agency (FSA)
 _____ Elected government representatives
 _____ Consulting foresters, loggers, sawmill operators
 _____ NYS Maple Producers Association
 _____ Friends /neighbors /family members
 _____ Other (Please specify: _____)
 _____ I can't recall the source

If you have not received information from or talked with anyone from the Cornell Maple Program or Cornell Cooperative Extension about your sugar bush since the January 1998 Ice Storm, please check here ☐ and SKIP to Question 3.

2. How useful was the information you received from the Cornell Maple Program and Cornell Cooperative Extension? (Please circle one number for each type of information that you received.)

| | <u>Not Useful</u> | | | | | <u>Very Useful</u> | <u>Not Applicable</u> |
|--|-------------------|---|---|---|---|--------------------|-----------------------|
| a. Written materials | | | | | | | |
| - "Trees & Ice - After the Storm of 1998" | 1 | 2 | 3 | 4 | 5 | | NA |
| - Mailings/newsletters | 1 | 2 | 3 | 4 | 5 | | NA |
| b. Workshops or meetings | 1 | 2 | 3 | 4 | 5 | | NA |
| c. Field demonstrations /visit to sugar bush | 1 | 2 | 3 | 4 | 5 | | NA |
| d. Cornell maple production school - satellite conference | 1 | 2 | 3 | 4 | 5 | | NA |
| e. NYS Maple Tour (1998) | 1 | 2 | 3 | 4 | 5 | | NA |
| f. Personal contact with Cornell Maple Program or County Cooperative Extension staff | 1 | 2 | 3 | 4 | 5 | | NA |

FUTURE EDUCATIONAL MATERIALS

If you do not plan to continue maple syrup production, please check here ☐ and SKIP to Question 9.

3a. Which of the following topics that could be addressed in future Cornell Cooperative Extension communications would help you with maple syrup production and ice storm recovery? (Please check all that you are interested in.)

- ☐ Sugar bush damage assessment (e.g., which trees should be cut, time frame for tree recovery)
- ☐ Sugar bush management (e.g., rehabilitation techniques for damaged trees, fertilization, replanting saplings)
- ☐ How other locations with ice storm damage dealt with sugar bush recovery efforts
- ☐ Safety in the sugar bush
- ☐ Wildlife damage control to help ice-damage recovery (e.g., deer browsing of new seedlings, rodent damage to tubing)
- ☐ Changes taking place in the kinds of plants and animals in the sugar bush as a result of the ice storm
- ☐ Collection and processing of sap (e.g., sanitation of tubing systems, review of new equipment available)
- ☐ Business management, economics of recovery (e.g., Is it worthwhile to retap and rebuild business after the ice storm?)
- ☐ Financial assistance programs for ice storm recovery
- ☐ Tax implications of financial assistance programs
- ☐ Production of maple products beyond syrup (e.g., candy, cream)
- ☐ Marketing and promotion of maple products

3b. Please circle the one topic above that you think is most important for Cornell Cooperative Extension to address.

4. Which of the following topics would you like to have information on as alternative sources of income as you wait for your sugar bush to recover? *(Please check all that you are interested in.)*

☐ Ginseng production

☐ Mushroom production

☐ Timber harvest of damaged maple

☐ Leasing undamaged trees for tapping

☐ Leasing land for hunting or other recreational uses

☐ Other *(Please specify: _____)*

☐ None, I'm only interested in maple syrup production

5. What are the best ways to reach you with information on the topics you checked in Questions 3 and 4? *(Please check all that apply.)*

☐ Newsletter / special mailing

☐ Local workshops / meetings

☐ Visits to demonstration areas

☐ Cornell maple production school satellite conference

☐ Cornell Cooperative Extension lending library with videos and books

☐ Web site on the Internet

☐ Notices on a listserv that comes to you as an e-mail

☐ CD-ROM disk that can be used on your computer



6. Thinking back over your experiences in the year following the ice storm, if you were to start a new sugar bush now would you do anything differently because of your ice storm experiences?

_____ No

_____ Yes → Can you describe what you would do differently?

- 7a. Have your long-term (10+ years) management goals changed because of the ice storm?

_____ No (SKIP to Question 8)

_____ Yes → Can you describe the changes?

- 7b. Who would you seek advice from to help you with your new management strategies? *(Please check all that you are interested in.)*

_____ Cornell Maple Program and Cornell Cooperative Extension

_____ Department of Environmental Conservation (DEC)

_____ Farm Service Agency (FSA)

_____ Consulting foresters

_____ NYS Maple Producers Association

_____ Friends / neighbors / family members

_____ Other *(Please specify: _____)*

8. Do you think about the possibility of future ice storms when you make changes to your current maple syrup operation?

_____ No

_____ Yes

BACKGROUND INFORMATION

(Remember all information you provide is kept strictly confidential and is never associated with your name.)

9. What is the size of the sugar bush that you own or lease? _____ acres
10. Approximately how many acres of sugar bush were damaged in the January 1998 Ice Storm?
_____ acres
11. Do you own additional forestland (non-sugar bush)?
_____ No
_____ Yes → How many acres? _____ acres
12. Do you own non-forested open-space property, such as pasture, cropland, or wetland?
_____ No
_____ Yes → How many acres? _____ acres
13. On average, what was your annual syrup production before the ice storm?
_____ gals.
14. What was your syrup production in 1998 and 1999? *(Please write in zero if you didn't tap in one of those years.)*
_____ gals. in 1998 _____ gals. in 1999
15. Approximately how many taps did you operate before the ice storm?
_____ taps
16. Approximately how many taps did you operate in 1998 and 1999? *(Please write in zero if you didn't tap in one of those years.)*
_____ taps in 1998 _____ taps in 1999
17. What percent of your household income was derived from maple syrup production in the year prior to the ice storm?
_____ %
18. What percent of your 1999 household income do you estimate will come from maple syrup production?
_____ %

19. Please check the types of equipment you use:

- | | |
|--|---|
| <input type="checkbox"/> Reverse Osmosis | <input type="checkbox"/> Sap pre-heater |
| <input type="checkbox"/> Wood Evaporator | <input type="checkbox"/> Filter press |
| <input type="checkbox"/> Oil Evaporator | <input type="checkbox"/> UV sterilization light |
| <input type="checkbox"/> Vapor Compression Evaporator | <input type="checkbox"/> Forced draft evaporator |
| <input type="checkbox"/> Piggy-back /Steam-away Units | <input type="checkbox"/> Tubing collection system |
| <input type="checkbox"/> Vacuum pump | <input type="checkbox"/> Bucket collection system |
| <input type="checkbox"/> Hydrometer/thermometer | <input type="checkbox"/> Refractometer |
| <input type="checkbox"/> Other (Please specify: _____) | |

20. To date, have you received any compensation or reimbursement for your maple syrup/sugar bush losses due to the ice storm?

- ☐ No
- ☐ Yes → From which programs? (Please check all that apply.)

FSA (Farm Service Agency) Programs

- ☐ ECP (Emergency Conservation Program) - used mostly for cleaning up debris in the sugar bush, replacing fencing, and replacing tubing
- ☐ SIP (Stewardship Incentive Program) - used mostly for preparing a forest management plan and clearing roads and trails for access
- ☐ TAP (Tree Assistance Program) - used mostly for rehabilitating live trees
- ☐ NAP (Noninsured Crop Program) or CLDAP (Crop Loss Disaster Assistance Program) - reimbursement for maple syrup production losses

Other Programs

- ☐ HUD programs
- ☐ New York State programs
- ☐ Other (Please specify: _____)
- ☐ I'm not sure which programs

21. How many years have you or family members been involved in maple production?

_____ years

22. Had you gotten information on maple production from the Cornell Maple Program or Cornell Cooperative Extension PRIOR to the ice storm?

_____ No
_____ Yes

23. How much time do you typically spend each year on continuing education efforts (e.g., workshops, reading) for maple production?

_____ hours

Please use the space below for any comments you wish to make.

THANK YOU FOR YOUR TIME AND EFFORT!

To return this questionnaire, simply seal it (postage has been provided) and drop it in the nearest mailbox.

