Department of Horticulture
MICHIGAN STATE UNIVERSITY

COMPACT FRUIT TREE

ROOTSTOCK BEHAVIOR
SPUR TYPES
INDUCED DWARFING
CULTURAL PRACTICES

THE INTERNATIONAL DWARF FRUIT TREE ASSOCIATION

No. 1, January, 1979 - Prepared by Robert F. Carlson

NOTES ABOUT THE 22nd ANNUAL CONFERENCE
February 28 - March 2, 1979

Enclosed with this Newsletter is the Program for the Conference to be held in Grand Rapids, Michigan. Bring this with you, or better yet, pass it to someone who is not a member of the International Dwarf Fruit Tree Association and who probably does not know about this Association. Programs will be available at the registration desk. If you need extra copies or further information about the Program, call 517-355-5200.

SPEAKER FROM HOLLAND

This year, the IDFTA is sponsoring an outstanding speaker from Holland, where much of the early, high density work with dwarfing rootstocks was done. He is Dr. Henk van Oosten, researcher in Pomology at the Wilhelminadorp Research Station at Goes. Henk is a young, ehthusiastic person with a lot of knowledge about rootstocks, cultivars, and most of all tree management.

His work in comparing fruit productivity between virus infected vs. clean rootstocks and cultivars will be part of his two talks presented Wednesday and Thursday, February 28 and March 1. Some remarkable results of pomological evaluations prior to and after heat treatments of clones will be discussed. Henk will, also, briefly explain the cooperative system of progress in improving tree and fruit quality by the elimination of diseases.

Of equal interest will be the discussion on current developments in the Dutch fruit industry - changes in recent years; effect of tree quality on early yield; and planting systems (single vs. multiple rows). He will, also, delve into pear, cherry and plum, the extent of plantings, rootstocks, cultivars and associated problems.

MICRO-PROPAGATION - A NEW PROGRAM FEATURE

The breeding and developing of new fruit tree rootstocks for the fruit growers is gaining and with it plant propagation has become an important part of rootstock research. With new propagation methods for more rapid increase of new clones, five to 10 years can be gained in getting a new rootstock clone into the growers orchards - and more dollars in their pockets.

To explain micro-propagation at the 22nd Conference will be Dr. Tsai-Ying Cheng from the Oregon Graduate Research Center at Beaverton. "Tsai" has spent many

years in developing both the basic and practical aspects and techniques of micro-propagation. She is well familiar with cell, meristem and tissue culture and materials and methods needed in this project. Her title of the talk is "Micro-Propagation of Clonal Rootstocks." Earlier "Tsai" was involved in the increase of tall, 100 foot or more, timber trees in the Northwest by micro-propagation. She and co-workers were so successful in making this a practical part of the timber industry that she decided to tackle propagation of fruit tree clones and cultivars. This she has been doing the past two or three years. Her results are fantastic and interesting.

GROWER PROGRAM PARTICIPANTS

In total, over 60 persons are involved in this, the 22nd Annual Conference. Out of this number, many are fruit growers from New York to Washington and also from Canada. Of much interest is pruning during the growing season to keep trees from becoming overly vigorous and to keep them in annual production. A panel of "experts" will discuss summer pruning, giving reasons, results, best timing and methods. Other growers will discuss particular techniques developed on their farms to make fruit growing interesting and more profitable.

On Wednesday evening, February 28, 8:00 P.M. to 10:00 P.M., two concurrent sessions will convene. These rather informal sessions are aimed at discussing some of the more detailed aspects of fruit growing; that is, what cultivars are on the horizon; what is involved in propagating quality fruit trees, and so forth. Come prepared to ask questions of panel speakers in these evening and daily sessions.

REGISTRATION AND PAYMENT OF DUES

The Program lists the time schedule for registration. All should register and pay dues. The 1979 dues, based on calendar years, are now payable. Those members who cannot attend can mail the dues to Box 143, Hartford, MI 49057 or 303 Horticulture, Michigan State University, East Lansing, MI 48824. Commercial dues are $25.00 and non-commercial or associate dues are $10.00. Remember, 70% of the annual dues goes toward rootstock research. Our Canadian grower members should make the check payable in U.S. dollars.

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TO ANNUAL RESEARCH CONTRIBUTORS

Many members are annually contributing a lump sum toward rootstock research and development. A year has elapsed since the last contributions were made. The Board of IDFTA at their December 5, 1978, meeting requested that this reminder be mailed to all members so that not only "older" contributors would be reminded, but also that "newer" members would join and start to contribute annually to the Rootstock Research Foundation. Such contributions are tax exempt. Most are in $100.00 or more amounts; however, smaller contributions are helpful and welcome. Please make these checks payable to: Rootstock Research Foundation and mail to Virginia Ebers, 3134 Pleasant Grove Terrace, Grand Rapids, MI 49505.

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SUMMER ORCHARD STUDY TOUR - 1979

The invitation from Nova Scotia to visit that fruit area was accepted and confirmed by the Board of IDFTA at their December 5 meeting. This will take place the third week in June, June 20-22, 1979. The program details will be forthcoming, including pre-registration.

BASIC FACTS ABOUT ORDERING FRUIT TREES

Most nurseries are striving for quality in fruit trees just like the grower is trying hard to produce quality fruit. Both go hand in hand. By planting quality trees, the grower is assured of uniform trees and early fruit production. To help the nurserymen to plan ahead, the grower should, also, plan ahead and get his order in at least two years in advance of planting. The grower should specify what cultivars and strains of these that he needs for his new plantings. He should, also, state in his order what rootstock (especially for apple trees) he wants to match his tree spacing plans. During winter and spring is a good time to get the tree order in to your favorite nursery.

During the 22nd Annual Conference, a panel of nurserymen will discuss what the tree supply situation looks like to them in the next three to five to 10 years. They will discuss what cultivars of cherry, peach, pear, plum, apricot and apple might be in good or short supply. Equally important in this supply picture are the nurseryman's thoughts on rootstocks and possibly interstems to use for adequate dwarfing and tree longevity.

THE ORCHARD TOUR

The two stops for the Friday morning Orchard Study Tour, March 2, will be the Ralph Succop Orchard, 3605 10-Mile Road, Sparta, Michigan and the Roger Sour Orchard on Peach Ridge Road. At these two stops some interesting plantings will be observed, including 25-year-old Clark interstem planting and different age groups from well-spaced trees to crowded conditions. Coffee will be served at one stop.

CORRECTION

In Volume 11, 1978, page 15, Table 2 should be $20^{o}C$, $25^{o}C$, $20^{o}C$, $25^{o}C$. Requested by Amnon Erez.

LADIES PROGRAM - LAST BUT NOT LEAST!

The ladies of members of the IDFTA will meet in the Lobby of the Pantlind Wednesday, February 28 at 11:00 A.M. They will have a private lunch at the Old Mill Restaurant at Rockford. This will be followed by a short business meeting. Also, included in the program is a visit to a quaint shop and a farm market, then back to the Pantlind around 2:00 P.M.

CONFERENCE ROOM RESERVATIONS

For room reservations write The Pantlind Hotel, 187 Monroe, N.W., Grand Rapids, Michigan 49502, or call 616-459-7201.

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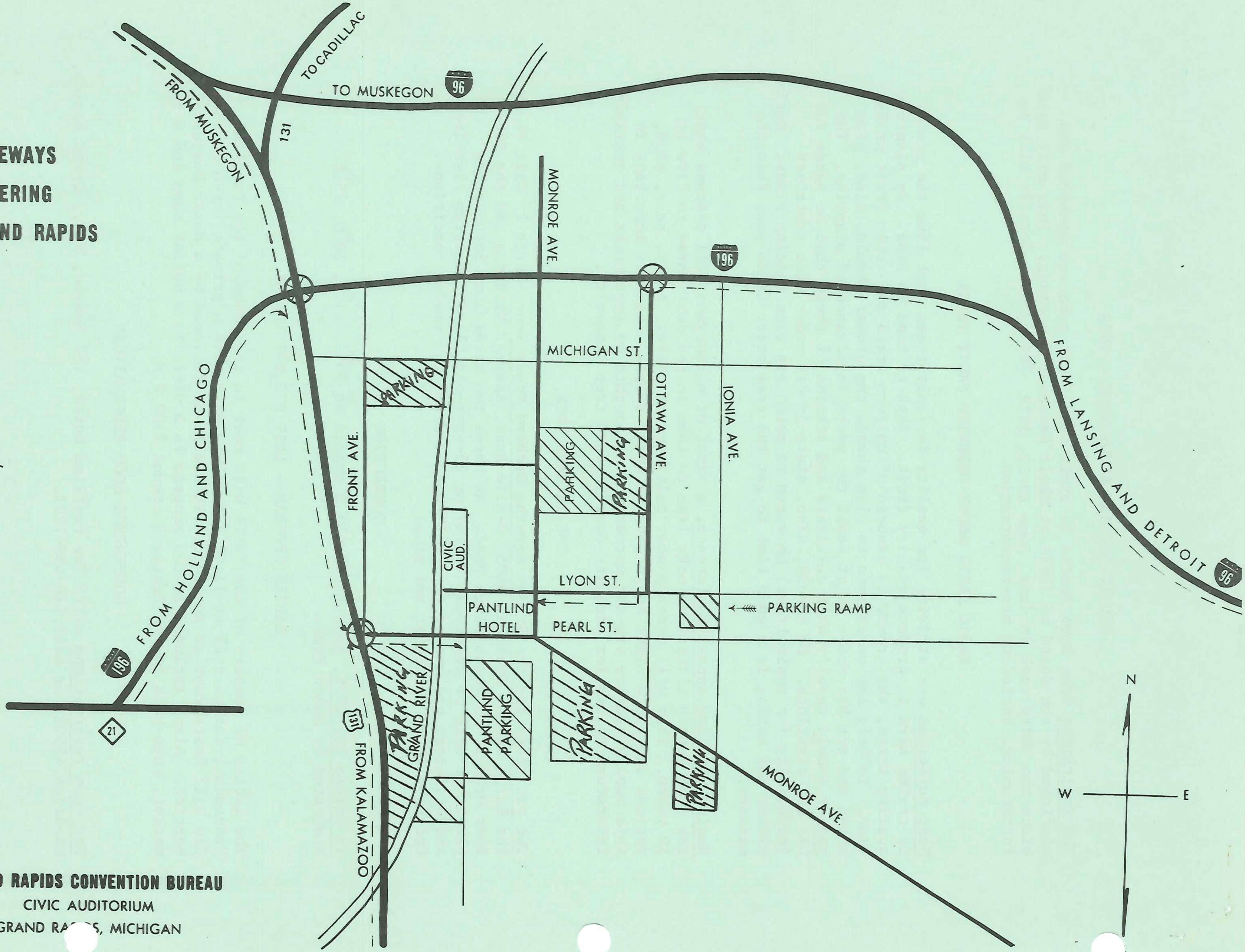

GRAND RAPIDS CONVENTION BUREAU
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COMPACT FRUIT TREE

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No. 4, July, 1979 - Prepared by Robert F. Carlson

LOCATION CHANGE OF 23rd ANNUAL CONFERENCE - 1980

The Pantlind Hotel in Grand Rapids will be closed for about 18 months for remodeling. Therefore, the 23rd Conference will be held in the Hilton Center Hotel, Kalamazoo, Michigan. Please make a note of this change from the original announcement.

The Conference dates are the same as previously announced, Wednesday, February 27 to Friday at Noon on February 29. The Board, IDFTA and the Rootstock Research Committee will meet Tuesday, February 26 in the afternoon and evening.

Since space for lodging can be limited, we suggest that room reservations be made prior to January 15. Plenty of rooms are set aside up to that time. A hotel reservation card will be enclosed with a future Newsletter. However, if you wish to make reservations by phone prior to that date, the number is (616)-381-2177, or write the Kalamazoo Hilton Center, Kalamazoo, MI 49006. The confirmed room rates are: Single - $34.00; Double - $39.00; Triple - $42.00 and Quads - $45.00. Special rates are given IDFTA members, so be sure to mention this as you also request written confirmation.

ORCHARD STUDY TOUR TO NOVA SCOTIA - VERY SUCCESSFUL

Until one has visited Nova Scotia, one would not think of that Canadian Province as a fruit growing area. We soon found out that this is not so! The annual production of apples is about 2½ million bushels. They also grow pears, peaches, grapes, cranberries and about 10 million pounds of blueberries annually. Apparently soils are more on the acid than on the alkaline side.

Rootstocks: The planting of apple trees has steadily increased since 1938 and along the way clonal rootstocks have come into use. The Malling stocks, as elsewhere, have come into trials and usage, such as M. 7, 26 and Malling Merton 106 and 111. The Beautiful Arcade (B.A.), another rootstock from Europe, was used both as direct stock and as rootsystem for interstem trees. Some suckering was observed when used as rootstock with M. 9 interstems. B.A. was, however, noted as being quite hardy, productive, precocious, compatible, soil adaptable, virus tolerant and somewhat dwarfing. It is reproduced

from seed trees grown in somewhat isolation for uniform pollination. Hence, it is not a clone stock but a seedling.

Cultivars: In general, the cultivars grown in Nova Scotia parallel those grown in other fruit areas of North America, except Gravenstein. This is an old cultivar dating back to 1820. A couple of years ago we saw it in fruit and in market places and were impressed with its good flavor. Origin of Gravenstein is obscure, but literature dates it back to the 1920's. At one time it was a leading variety in Germany and Scandinavia. Fruit is medium to large, reddish with yellow ground color.

Tree Training and Pruning: Most of the younger orchards were trained and pruned to the central, modified leader system. These younger orchards were made up of uniform trees and well managed for spacings provided. We saw variable spacings, from 6X17 feet to 16X24 feet. At the Kentville Research Station, Dr. David Crowe showed us "System 155". It is a standard system of 14X20 feet spacing and a tree height and spread of 12 feet. It is a good average for most scion/rootstock combinations. We also saw his test orchard using the scaffold renewal pruning system to maintain a lower profile of semi-standard trees and to allow more light into the tree centers.

Cold Winter Tree Damage: Due to bare ground and low winter temperatures, some young bearing trees were killed. This seemed to show up in particular areas of some orchards and no doubt was due to soil variation and ground cover. It was most distressing to see well-planned and managed orchards coming into bearing age with an area in the center of dead or dying trees. Fortunately, speaking of the Nova Scotia area as a whole, the damage was limited rather than extensive. Northwest U.S.A. suffered similar 1978-79 tree loss.

Pest Management: The spray program for control of insects was kept to a bare minimum. This was based on their integrated pest control program which was begun as early at 1950. Up to the time (June 20) we were there, only three sprays had in general been applied. Apparently, this was at a low rate to allow maximum work by predators. Some of the insects we saw active in some orchards were green fruit worm, leaf roller and winter moth (Operophtera brumata). The damage was not severe, but may be of concern to some growers. The winter moth is a heavy foliage feeder and also chews into young, developing fruit, similar to the green fruit worm.

Weed Control: The use of herbicides varied from full usage to none. This makes one wonder if more ground cover in the form of weeds, grass and trash, especially in the fall, would not have prevented some of the winter kill of the trees.

Harvest Labor: With the use of smaller, more efficient apple trees, the growers of Nova Scotia have no harvest problems. They employ local people, including high school and college students, wives and others willing to work to earn extra dollars.

Attendance: About 300 persons attended the two-day Orchard Tour and discussion sessions. They came from major fruit areas of North America (Washington to Nova Scotia and England, namely Basel Neame who is a grower from Faversham, England).

The weather was beautiful with sunshine and temperatures in the 70's. It was ideal for orchard visits and discussions. It was cloudy with some rain during the scenic tour, which was held the third day. However, everyone enjoyed what they saw as well as each other's companionship. The picnics and sea food feast were also very enjoyable.

Our thanks and appreciation is extended to the enthusiastic fruit growers and to the research and extension personnel who so capably set up a most interesting Fruit Tree Study Tour.

RESEARCH MONEY FROM WISCONSIN

At one lunch break during the Annual Tour in Nova Scotia, Mr. Allen Teach, Gays Mills, Wisconsin, presented a check of $500.00 to Jerry Sietsema, President, IDFTA, from the Wisconsin Horticultural Society. The money goes into the Association's Rootstock Research Foundation treasury for continued research in developing better rootstocks. At the 22nd Annual Conference, March, 1979, the Minnesota Horticultural Society made a contribution in the same amount. For the members and the Board, IDFTA, we say Thank You to these two Associations for their generous research contributions. We hope these are examples and that other state and federal groups will follow.

LET THE SUNSHINE IN WITH AUGUST PRUNING

Up til mid-July, most fruit areas have had ample rainfall to promote good shoot growth in trees. In fact, some vigorous cultivars have excess growth at this time. So, now is the time to start planning for removal of some of the foliage "to let the sunshine in". This is important for red color and size gain of the fruit. Take advantage of these sunny days, spending them in the orchard removing some of the perpendicular shoots and those in the top half of the tree causing shading in the tree center. A pair of hand shears is fine in young orchards; whereas, in the larger trees, loppers work well.

Experience is the best teacher for August pruning of apple trees. Why? Because each cultivar needs to be treated a little differently than the next and according to age and location. For example, a low vigor cultivar may need very few cuts, such as cutting back to the base of current shoot growth only leaving a one inch stub. Vigorous cultivars with over-hanging branches may need cuts into one or even two-year-old wood. All perpendicular shoots should be cut at the base unless they are needed for renewal branches.

You will find that the advantages of August pruning are many. In fact, once the art is mastered, it will be standard practice with compact trees in high densities.

STUDY TOUR TO SOUTH AFRICA

Plans are in progress for visiting the South African fruit industry, which is noted to be extensive in shipping fruit to many parts of the world. Tentatively, the group is scheduled to leave Detroit and Boston January 7, 1980, and return around February 1. A two-day stop-over will be made in Spain going and a three-day stop in southern France on the return. Fruit growers and pomologists (research and extension) are invited. The group will be limited to 35 persons. Visits will include both research stations and fruit farms. Travel details and costs will be available soon.

1979 PUBLICATION, VOLUME 12

A free copy of Volume 12, COMPACT FRUIT TREE (200 pages), is being mailed to IDFTA members. A membership roster is included in this Volume. It also contains 38 research and practical papers, covering various topics from rootstocks to summer pruning. Extra copies are available at $12.00 per copy.

A few copies of back volumes are also available: Vols. 7 and 9 @ $2.00 each; Vol. 10 @ $5.00 each; Vol. 11 @ $10.00 each and Vol. 12 @ $12.00.

THE APPLE

"El Manzano" or "The Apple" by Sergio Alvarez Requejo, member of the Ministry of Spain, is being translated into English.

TWENTH-THIRD ANNUAL CONFERENCE

An interesting and educational program is being planned for the Conference in Kalamazoo, Michigan, February 27-29, 1980. Some of the feature items will be two interesting talks by Dr. Ron Hutton from Australia, a fruit growers panel discussion from Washington and various subject topics from rootstocks to planting, to pruning types, to marketing, to mechanization of harvesting will be covered.

The program is not yet filled. We are still looking for fruit growers who are willing to speak about fruit growing successes, problems, techniques, etc. or to take part in panel discussions. Let me know and you will be on - especially young, enthusiastic individuals.

HARDY CULTIVAR

North Dakota State University reports that they have developed a hardy apple cultivar which is still under tests as Mandan 41-27. The tree of nature is semi-dwarf, fruits in the fourth year, is fairly resistant to blight and annual cropper. The fruit is round oblate, tendancy toward five points, up to 3 inches, green-yellow flesh, juicy, but slightly coarse, subacid and of pleasing eating quality. It could possibly replace "Beacon".

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No. 2, March, 1979 - Prepared by Robert F. Carlson

22nd IDFTA CONFERENCE

The total registered in attendance at the Conference was 528. 28 states and five countries were represented.

All of the Program participants did an excellent job in presenting valuable and useful information for everyone at the Meeting. On behalf of the President, the Board members, IDFTA, and myself, we extend a sincere thanks to all the speakers, panel members, registration personnel, and others for so capably contributing to another successful Conference.

ASSOCIATION AFFAIRS

We welcome two new members to the Board, IDFTA; namely, Evan Milburn, Elkton, Maryland and Hugh Hargrave, Yakima, Washington. Also, congratulations to the new President, Jerry Sietsema, Grand Rapids, Michigan, and Vice President, Tom Chudleigh, Milton, Ontario, Canada. Our sincere thanks goes to Henry Bennett, Geneva, New York, who so capably served as President for the past two years.

We regret the departure of Albert Ten Eyck, Brodhead, Wisconsin, as Board member and Chairman of the Rootstock Research Committee. Albert has been a great "spark plug" in the Association's activities and growth. He, of course, is still a very active member. Frank Gilbert, Secretary of the Rootstock Research Committee best sums up Albert's contribution by saying: "Without Mr. Albert Ten Eyck, today's Rootstock Research Committee and the supplemental funding of research projects by the International Dwarf Fruit Tree Association would be non-existent".

The new Rootstock Research Committee Chairman is Elwin Hardy, Hollis, New Hampshire. He has served on this Committee since its inception and is well qualified to carry on the duties of that Committee.

FEDERAL ROOTSTOCK RESEARCH FUNDING

A request for federal rootstock research funding is being prepared by the Association and implemented by the Rootstock Research Committee. A request for $300,000.00 will be presented to the Appropriations Committee in Washington, D.C. in April, 1979. To obtain full support of this funding, the Rootstock Research Committee is asking that members of the IDFTA write their senators and representatives for strong backing of this funding request for rootstock research.

Your letter should stress the need for better rootstocks, the problems with current rootstocks, the unproductiveness of the old standard trees on valuable land, the savings of energy when fruit is grown on smaller trees with dependable rootstocks, etc. Put it in your own words and write your senator or state representative, Washington, D.C. 20005.

23rd ANNUAL CONFERENCE

The 23rd Annual Conference will be at the Pantlind Hotel, Grand Rapids, Michigan, Wednesday, Thursday and Friday, February 27, 28, and 29, 1980. Program suggestions should be sent to me at the earliest opportunity.

ANNUAL DUES, 1979

Many members have mailed in or paid at the Meetings their dues for this year. It is still time to mail in these dues to: Box 143, Hartford, MI 49057 or 303 Horticulture, Michigan State University, East Lansing, MI 48824. Member dues are $25.00 and university personnel dues are $10.00. Make your check payable to IDFTA.

ROOTSTOCK RESEARCH FUNDING

While the checkbook is handy, write a check for rootstock research to ensure that this important research will continue to develop new and "perfect" rootstocks for all tree fruit crops. Make this check (any amount large or small) payable to: Rootstock Research Foundation and mail either to 303 Horticulture, Michigan State University, East Lansing, MI 48824 or 3134 Pleasant Grove Terrace, Grand Rapids, MI 49505. A total of $14,000.00 was granted in March to nine research stations for continuing rootstock research.

DORMANT PRUNING

Many fruit growing areas experienced a severe winter with low temperatures and deep snow, and hence not a great deal of pruning was done in January and February. For these reasons some orchards may not get pruned, although pruning can be continued through April and May.

Older apple orchards, in the 10 to 20 year bracket, should be pruned first, then the four to 10 year olds, and if time permits lightly prune the younger trees. The younger trees can be pruned in August, thus allowing them to grow and thicken and set more fruit buds which is very important for good production in the fourth year onward.

Tree crowding is a tendency in orchards over 10 years of age and especially those on MM 106 and MM 111 and less on M. 7. To correct this it is best to remove two or three main upright growing scaffold branches, especially those toward the adjacent tree. Next, check the tree height - if the leader is growing out of reach (above 10 to 12 feet) for efficient tree management, cut it out just above a smaller branch. You will not miss that top and your fruit quality will improve. Then, take a look at the top one-third of the tree. Is it starting to "hang over" the lower two-thirds? If so, reduce the scaffold branches by heading them back to a smaller sub-lateral branch. You may have

to reduce the length of these branches by one-fourth or more in order to get into proper proportion with the lower two-thirds of the tree. The lower two-thirds of the tree branches may need some heading back if the trees are acquiring too wide a spread. Some branch thinning, removing "criss-cross" smaller branches, is always desirable. This allows better access to fruit at harvest time.

How pruning cuts are made and how much to prune out depends on crowding condition (tree spacing), age of trees, tree training system, cultivar, root-stock, and general condition of the trees. The person who is doing the actual pruning is the one who has to make many so-called "hard judgment cuts"; however, with experience this comes rather easy.

Pruning the stone fruit trees, if possible, should be held off until last because often blossom frost damage occurs which will determine how much to prune. When some of the flower buds are injured, only light pruning should be done to save as many live buds as possible. But, with no injury normal pruning is carried out.

With peaches, normal pruning usually means reducing the length of branches and cutting out up-right, vigorous shoots. Older trees may need branch renewal which involves heading back to a vigorous, new shoot. In fact, this should be attempted in younger trees in high density as well in order to maintain fruiting nearer the tree centers. Peach trees soon become peripheral in fruiting, losing bearing surface in the inside.

Tart cherry trees being mechanically harvested are to be kept rather full for maximum bearing surface. Some thinning out of branches in the dormant season to improve light exposure for better fruit ripening is suggested. Summer tipping is being tried to make trees more compact, productive and for holding tree size to minimum in higher density plantings.

Sweet cherry trees are vigorous and tend to get very large unless some dormant pruning is practiced. Each cultivar has its own growing habit and has to be treated (pruned) accordingly. Some are upright growing with several strong leaders forming a "vase" shaped tree. Others are less vigorous and can be trained with a modified central leader. When these trees are in the four to six year old bracket, some heading of lateral branches is suggested to encourage fuller trees and to maintain size appropriate for particular tree spacing.

Apricot and plum trees have a similar branch pattern structure. Branches tend to grow and extend outward from the tree center with few sublaterals. To encourage formation of more side branches on the main scaffolds, a program of heading back scaffolds should be started in the third and fourth year, or even sooner if growth is excessively vigorous. In later years, both apricot and plum trees lend themselves to machine hedging, more so than apple cultivars.

Pruning in dormant season is useful in shaping the trees to a particular pattern. Therefore, each cut made should have a reason behind it for making it. Pruning and tree training involves a good knowledge of each cultivar's growth and fruiting habits. This would cover pages to describe; however, knowledge of a pruning pattern helps in approaching each tree with pruners....R.F.C.

ADVANCE REGISTRATION FORM FOR SUMMER TOUR
June 20 & 21, 1979

Nova Scotia Orchard Study Tour: The Tour will include two Fruit Tree Research Stations, seven family-operated orchards, lobster dinner, etc. Details will be in the May Newsletter.

Mail completed form with payment to: Nova Scotia Fruit Growers' Association, Research Station, Kentville, Nova Scotia, CANADA B4N 1J5. Please return by June 1, 1979. Lodging card enclosed.

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Name _____

Address _____
(street) (city) (state, country) (zip)

Spouse's name (if accompanying) _____

Names of additional family members (if accompanying) _____

_____

Telephone numbers: Business _____ Residence _____

Enclosed is my check for the following:	Number Attending	Amount Enclosed
Registration (includes coffee breaks) $5.00/person	_____	$_____
Transportation - Tour:		
June 20 - $5.50/person	_____	_____
June 21 - $5.50/person	_____	_____
Meals:		
Lunch, June 20 - $3.50/person	_____	_____
Supper, June 20 - $10.00/person	_____	_____
Lunch, June 21 - $4.50/person	_____	_____
Supper, June 21 - $5.50/person	_____	_____
Scenic & Historic Bus Tours, June 22: ($5.00/person) meals extra	_____	_____
Bus Service:		
Halifax Airport to Wolfville, leaves at 3:00 & 9:00 P.M., June 19 - $5.00/person	_____	_____
Return from Wolfville to Halifax Airport on June 22 or 23 - $5.00/person	_____	_____
TOTAL	_____	$_____

If applicable, give:
Flight No. _____ Arriving _____ (date)
Flight No. _____ Departing _____ (date)

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No. 3, May, 1979 - Prepared by Robert F. Carlson

DETAILS OF STUDY TOUR TO NOVA SCOTIA - 1979

June 20 - 22 - Headquarters: Acadia University, Wolfville, Nova Scotia.

Wednesday, June 20 and Thursday, June 21

8:00 A.M. - Buses leave each day from Acadia University.

Stop 1: MR. JOHN EISSES, Centerville - Here we will see young apple orchards planted in 1974 and 1978. The cultivars are: Delicious, Cortland, McIntosh, Gravenstein, Spartan and Spy, mostly on MM 106, spaced at 12 x 20' and 16 x 20'. Cropping has begun.

Stop 2: DEAN HENNIGAR, Sheffield Mills - One orchard planted 1966-68 has McIntosh and King on M. 7 and MM 106, spaced 16 x 24'. Yields have been around 400 bu./A. The pruning is designed to hold trees from eight to 10 feet in height for high-quality, fancy fruit. Another orchard (block 9) was planted in 1976-78 with Spartan, Crimson Gravenstein, McIntosh, Cortland, King, Delicious, mostly on MM 111, spaced at 16 x 24' and trained to central leader.

Stop 3: SHEFFIELD FARM - A substation of Agriculture Research Station at Kentville under the direction of Dr. David Crowe. Here we will see several cultivar rootstock trials.

Stop 4: MR. PETER VanOOSTRUM, Upper Canard - Observed here is a high density with posts planted 1976-78 with Spy, Cortland, McIntosh, Spur McIntosh, Delicious, Gravenstein, mostly on M. 26 and some on M. 9/MM 106 and on M. 9/MM 111 (interstems). These are trained to a central leader trying to fill the space (7.5 x 16') and allowing the leader to take the vigor.

Other plantings set in 1972, 1974 and 1976 have Cortland on Beautiful Arcade rootstock, McIntosh/M. 9/B.A., Gravenstein/MM 106, Idared/MM 111, Delicious/MM 111, Gravenstein/M. 7 and Spur McIntosh/MM 111, all spaced 15 x 22', except M. 26 which is in double rows. Tree training is to a modified central leader, allowing the bottoms to become wide to fill the allotted space.

Stop 5: MR. EBBIS PEILL, Stars Point - Here is a planting on wires, set 1970 with Spartan/M. 26, Spartan/M. 9, Delicious/M. 9, all spaced 6 x 17'. The grower is basically not satisfied due to high labor and capital requirements.

Another orchard (No. 11), 20 x 20', set in 1963 was doubled in 1967 to 10 x 20'. The interplants in every fourth row is Delicious; every tenth tree in every row grafted to Quinte and McIntosh. All are on M. 7 and trained to a central leader. Crowding is now a problem, but yield has been 600 bu./A. Grower now prefers a 12 x 22' spacing.

Block No. 8 was planted in 1973 with Spur McIntosh/Antonovka and Cortland/MM 106, spaced at 12 x 22'.

Stop 6: FRED WALSH, Rockland - Here we will see a mixture of standard and semi-dwarf trees - one planted in 1952 and interplanted with MM 106 in 1975. Another orchard set 1967 on Beautiful Arcade (B.A.) rootstock, and some on M. 26. Also, one set 1965 on MM 104, 106 is now in a pruning project to overcome crowding. These were central leader trained and the cultivars are: Gravenstein, McIntosh, Cortland, Spartan and Delicious.

Stop 7: SPURR BROTHERS LT., Marvin Square. The Gates south block set in 1962-66 with McIntosh, Golden Delicious and Delicious are on Seedling, B.A. and MM 106. The Smith block (1971-72) has McIntosh, Spartan, Delicious, Golden Delicious and Gravenstein on B.A., MM 106, MM 111 and some as interstem trees M. 9/B.A. These are central leader trees and summer pruned.

Stop 8: FOOTE FAMILY FARM, Woodville - McLean Farm was planted 1968-76 with McIntosh, Cortland, Gravenstein, Spartan and Idared, mainly on M. 26, MM 106 and interstem M. 26/A-2 (Alnarp) and pruned to a central leader. Here is a good trial of cultivar/interstem/rootstock.

Stop 9: KENTVILLE RESEARCH STATION, Department of Canadian Agriculture. Dr. David Crowe, Director. Research in progress; plant breeding, tree training systems, rootstock and cultivar trials, yield studies, etc.

Stop 10: M. W. GRAVES AND CO. LT. - Over 400 A. of apple, mainly Greening, Ribston. Spy and Cortland on M. 7. This is owned by a processor and planted since 1961 to present. More information at registration desk, Acadia University.

ACKNOWLEDGEMENT

We wish to acknowledge with thanks the personnel in Nova Scotia who have taken time out to organize this Orchard Study Tour. To mention a few - Mr. Alex G. Buchanan, Dr. David Crowe, Mr. George Foote, Mr. Charlie Embree, Dr. Rick Whitman and others. Lastly, a big thanks to the fruit growers whose orchards we will visit. All the members of IDFTA appreciate this.

SCENIC TOURS - FRIDAY, JUNE 22

Two scenic tours are planned: (1) Valley to Ocean Tour and (2) Ancestral Heritage Tour. These Tours will return at 6:00 P.M. so the 10:25 P.M. scheduled flight can be met. See the March Newsletter for registration details. Also, see information on charter flights.

LODGING AND SUMMER TOUR HEADQUARTERS
Due June 1, 1979

Lodging is available at Acadia University, Wolfville, Nova Scotia at $10.00 per person, children (12 or under) $8.00. For reservations write: Director of Conference Facilities, Acadia University, Wolfville, Nova Scotia, CANADA POP 1XO.

MOTELS AND CAMP SITES

Motels:	Phone:	Mileage from Tour Headquarters:
Old Orchard Inn	902-542-5751	3 miles
Whitespot Motel & Restaurant	902-678-3244	5 miles
Park Lane Motel & Restaurant	902-678-3201	5 miles
Mayflower Motel (no restaurant)	902-678-7394	5 miles
Wandolyn Motor Inn	902-678-8311	12 miles
Sun Valley Hotel & Restaurant	902-678-7368	10 miles
Campsites:		
Sherwood Park (has 200 campsites)	902-678-7477	12 miles
Plantation Camp Site (has hundreds of campsites)	902-538-3634	22 miles
Blomidon Provencial Park (has plenty of campsites)	902-678-8907	20 miles

SPRING ORCHARD CHORES

1. Check trunk damage caused by low temperature, mice, and rabbits. If severe, it may be too late, but in some cases damage can be bridged by grafting in dormant scions. Paint with grafting compound to prevent drying out.

2. Cut tops of newly set trees to promote stronger, well-spaced scaffold branches. Whips - cut approximately as follows: 3/4" at 36"; 1/2" at 32"; 1/4" at 28". If tree is branched, select two or three of the best and remove the rest and head the leader accordingly.

3. Re-check machine planted trees for anchorage in the trench and for proper depth (2" above ground) of graft union. After the soil has settled around the tree, it is a good idea to add sand or gravel on top of the soil and around the tree base.

4. Map the newly planted orchard, listing such items as location, date of planting, cultivars (strains) and rootstocks, source of trees, soil type, etc. Also, devise a labeling system for marking each row with the cultivar and rootstock names.

5. About 14 days after petal fall is a good time to score non-precocious cultivars; those in the three- to six-year-old bracket. Scoring is cutting a ring through the bark with a knife on the trunk below the bottom branch. Do not remove any bark.

CULTIVAR CORNER - 'IDARED' APPLE

Origin: Selected in 1935 by Leif Verner and introduced by the Idaho Agricultural Experiment Station in 1942. Parents are Jonathan and Wagener.

Tree: Strong, medium-sized, productive; bears young annually; susceptible to fireblight and mildew, like its parent, Jonathan. Blooms early, making it somewhat susceptible to frost. Semi-dwarf on M. 7.

Fruit: Nearly solid red, attractive skin color. Colors better than McIntosh in warmer apple regions. Resembles Wagener, one of its parents, but is not as flat. Medium in size. Flesh is firm, white, of good texture, excellent dessert and cooking quality; slightly acid. Core is small in proportion to flesh, and is therefore less wasteful. Late ripening-early October in Northern areas, making it susceptible to freezing in the orchard. Is slightly bitter at harvest, but the bitterness goes away after a few weeks in cold storage. Keeps well in storage provided it is not picked overmature, in which case it may develop scale, Jonathan spot or internal breakdown. Normally has excellent shelf size. . . . . George Kessler, Michigan State University.

VIRUS VS. NON-VIRUS

During recent years apple trees with and without virus infection have been compared in several trials. The growth of virus-free trees was more vigorous than that of virus-infected trees in all cultivars examined. All trees produced their first yield in the second year after planting, but usually the virus-free trees had the highest yield. Often virus-free trees had the smoothest fruits and the highest mean fruit weight. The more vigorous growth of virus-free trees is considered an improvement for orchards on replant soil because the 'normal' virus-infected trees grow poorly in the early years. However, the growth is too vigorous for orchards on fresh soil so that the planting distances of trees of several cultivars have to be changed accordingly. . . . .

H. J. VanOosten, Holland

VARIATIONS IN M. 9

Four sources of M. 9 were compared in an orchard trial with the variety Golden Delicious. The source M. 9a is difficult to propagate in the stool-bed, and the question of whether this property also affects growth and yield of varieties budded on this rootstock is being investigated. The four M. 9 sources differ in virus content. Yield efficiency was determined for each after five years of production. On the basis of the kg/cm and kg/cm^2 ratios, trees on virus-free M. 9 were the best, followed by those on M. 9a. But on the basis of kg/m^3 and kg/kg of pruning wood, the values for M. 9a were higher than for trees on virus-free and virus-infected M. 9 sources. The results indicate that differences between M. 9 sources may occur in the nursery and the orchard as well. . . . . H. J. VanOosten, Holland

COMMENTS

In analyzing and looking back on the IDFTA's activities since 1958, the group has come a long way. Some of the major accomplishments (credit goes to the entire Association) are: (1) Development of confidence in smaller, manageable trees by the fruit industry; (2) Fostering and supporting annual educational meetings; (3) The establishment of a rootstock-funded research program; (4) The creation of an international approach to membership and educational contributions and (5) Motivation of research institutes to put more emphasis on development of adaptable fruit tree rootstocks for the industry.

The annual membership dues have risen from $2.00 to $25.00; however, considering that 70% of these dues go towards rootstock research, the annual dues are actually only $7.50. Another way of saying this is that $17.50 out of each membership dues goes back to the industry - the grower, indirectly. Looks like the Association so far has operated on a "shoe string".

Volume 12 (1979), with membership roster, will be mailed soon to those who have paid 1979 dues.

AWARDS - INTERNATIONAL DWARF FRUIT TREE ASSOCIATION
Citations for 1979 Award Winners

George A. Adrian - Indianapolis, Indiana. George is a fruit grower and a leader in his state in using dwarfed fruit trees. This award was presented to him and his family for being innovative in the fruit industry; for his foresight in developing high density orchards for high production of quality fruit; and for developing a marketing system which can be enjoyed by people in the area.

Henry Bennett - Geneva, New York. Henry is well-known among nurserymen and growers. We honored him for his many years of service as manager of the New York State Fruit Testing Association; for his work in testing new and old cultivars and rootstocks for the improvement of the entire fruit industry; and for serving on the Board, IDFTA, for several years and as President of the Association the past two years.

Cal Bosch - Yakima, Washington. Cal is the managing editor of the GOODFRUIT GROWER, a publication covering varied topics of the fruit industry and which is read by the growers in the states and Canada. The Association honored Cal and his associates for their diligent work in reporting up-to-date research and practical information for the fruit grower, and for their genuine interest in promotion of quality fruit on compact trees.

W. S. "Stu" Carpenter - Paw Paw, Michigan. "Stu" has a long history of involvement in fruit growing in Canada and U.S.A. The Association was pleased to honor "Stu" for his many years of service as an extension specialist for the fruit industry in Southwestern Michigan, and more recently for assisting and consulting growers in production and marketing of fine fruit from high density plantings.

SPECIAL DISTINGUISHED SERVICE AWARD
PRESENTED BY THE INTERNATIONAL DWARF FRUIT TREE ASSOCIATION
TO: DR. ALEC HUTCHINSON
Vineland Research Station
Vineland, Ontario, Canada

Citation: To Dr. Hutchinson for his distinguished service to the fruit industry, devoting a lifetime in research to improving cultivars, rootstocks and cultural techniques; for his cooperation and dedication in working with other researchers in Canada and the U.S.A. in gaining practical and fundamental knowledge of horticulture; and long time active interest in the International Dwarf Fruit Tree Association and service as a member of the Rootstock Research Committee since its inception in 1975.

The members of this Association extend sincere congratulations to Alec and best wishes for good health and happiness in his retirement.

STOP-OVER IN NEW BRUNSWICK

Those traveling by surface may wish to visit fruit tree research and orchards enroute to Nova Scotia. An invitation was extended at the March Meetings to any one wishing to visit the New Brunswick Province that you are very welcome to do so.

To make such a visit most profitable, please contact in advance one of the following: Mr. Burris Coburn, Route 3, Mouth of Keswick, New Brunswick. Phone 506-363-2275. OR Mr. Roger A. King, Sec. New Brunswick Fruit Grower's Association, Inc., Route 6, Fredericton, New Brunswick E3BX7. Phone 506-454-9636.

OTHER TID-BITS DURING N.S. TOUR

Wednesday evening (6/20) - lobster dinner
Thursday (6/21) - seafood luncheon; pork barbecue dinner.

For tourist information, please write: Nova Scotia Department of Tourism, Travel Division, Box 130, Halifax, N.S., Canada.

Department of Horticulture
MICHIGAN STATE UNIVERSITY

COMPACT FRUIT TREE

ROOTSTOCK BEHAVIOR
SPUR TYPES
INDUCED DWARFING
CULTURAL PRACTICES

THE INTERNATIONAL DWARF FRUIT TREE ASSOCIATION

No. 5, October, 1979 - Prepared by Robert F. Carlson

TWENTY-THIRD ANNUAL CONFERENCE, IDFTA

The 23rd Annual Conference will be held at the Kalamazoo Hilton Inn, February 27 - 29, 1980. Make your reservations now. Registration cards are enclosed.

The Program will feature two guest speakers - Dr. Ron Hutton, Yanco Experiment Station, N.S.W. Australia and Dr. Michael Hennerty, Dublin, Ireland.

Dr. Hutton will present two talks dealing with the Australian fruit industry - progress, trends and future, and also on the development phases of mechanical fruit harvesting and shaping trees for the machine.

Dr. Hennerty is primarily involved with fruit and vegetable nutrition and has much information on high density fruit plantings. He will cover such items as nitrogen turnover in apple tissue and biological methods for determining nutrient condition in fruit trees.

Dr. David Crowe, Nova Scotia, Canada, will present interesting results on containment pruning in high densities and on "System 155", an average way of computing tree spacing according to rootstock and cultivar.

Grower participation in the Program will "zero in" on down-to-earth experiences with rootstocks, cultivars, tree management, etc. Growers willing to participate are encouraged to contact me.

Research and extension personnel from various states and Canada will update the members on management of different tree densities from year one to maturity, on summer pruning and on culture and nutrition. Two concurrent sessions on Wednesday evening will cover fruit tree rootstock development and propagation.

A Fruit Tree Study Tour will take place Friday, 8:00 A.M. to 1:00 P.M. A Ladies Program is also planned for Thursday morning. Further Program details will be forthcoming.

IDFTA CENTRALIZED

The headquarters of the IDFTA will remain in the Department of Horticulture, Michigan State University. Early in August, 1979, the Treasurship was transferred from Wally Heuser, Hartford, Michigan, to 303 Horticulture, Michigan State

University. Robert Carlson has added another chore to his duties as Executive Secretary and now is the official Secretary/Treasurer, IDFTA. This action transpired during the past Board meetings of the Association.

Carlson's title has also changed from Professor to Professor Emeritus. He wishes to thank everyone for the many letters of congratulations and best wishes he received during the summer. A special thanks goes to the many growers and friends who came to the retirement party, August 17, 1979.

The members of the Association also wish to acknowledge their thanks to Wallace Heuser and his secretary Francis Hay for handling the Treasurery since 1964. It is not an easy task, but one that is very important if an Association is to grow and help the fruit industry prosper.

Virginia Ebers has agreed to continue being Treasurer of the Rootstock Research Foundation, IDFTA. We appreciate her service to the Association. She has moved back to the farm to continue running the orchard. Her address should be changed to: 1645 10-Mile Road, Sparta, MI 49345.

ASSOCIATION UPDATE

With every change in management structure, minor changes take place for efficiency and economic reasons. Having combined the Treasurer/Secretary offices into one, duplication of records is reduced. To further reduce mailing and secretarial help, some standards need to be followed. All of us dislike "deadlines" but we must have them in order to keep the records in order and to avoid extra billing mailings.

The By-Laws of the Association states that dues are payable on the calendar year, January 1 to December 31. Therefore, the 1980 annual dues are payable January 1 or before. Members attending the Annual Conference at Kalamazoo, Michigan, can pay when registering for the Meetings. Other members should mail the dues prior to April 1, 1980. Those who have not paid by April 1 will be dropped and will not receive the Newsletters or Volume 13, COMPACT FRUIT TREE. The cooperation of the members is greatly appreciated.

Current dues are: Commercial = $25.00; Education (university, extension) = $10.00.

When a member moves to a new location, please send your complete old and new address to Robert Carlson. Also, if you are receiving duplicate mailings, please contact Robert Carlson with the correction. (Robert Carlson, Department of Horticulture, Michigan State University, East Lansing, MI 48824, U.S.A.)

CONTRIBUTIONS TO ROOTSTOCK RESEARCH

The Nova Scotia Fruit Growers Association recently (August 1979) contributed $1,000.00 toward searching for improved fruit tree rootstocks. This is the kind of support that is needed to keep the rootstock research program active and productive. Earlier this year, the Minnesota and Wisconsin Horticultural

Associations contributed to the same effort. The monies received are granted to University Experiment Stations who have active rootstock research projects in the States and Canada. Donations are tax exempt. Now that a bountiful crop is harvested, it is a good time to invest some of the returns for the improvement of uniform and productive fruit trees in the future. Make the check payable to: IDFTA (RRF) and mail to Virginia Ebers, 1645 10-Mile Road, Sparta, MI 49345, U.S.A.

VIRUS VS. NON-VIRUS FRUIT TREES

From East Malling, we hear that yields in test plantings were 40% higher from non-virus fruit trees as compared to infected trees. Due to more vigor of virus-free trees of M. 9 rootstock, the suggested tree spacing is 9 x 14 feet as compared to about 6 x 10 feet of regular M. 9 trees.

Also, from East Malling, we learn that Dr. A. F. Posnette has retired as Director of the Station. Many members of the IDFTA have visited the Station since the Directorship of Dr. F. R. Tubbs and observed progress in fruit tree research. Members of the Association send best wishes to Dr. Posnette in his retirement. The new Director is Dr. Ian Graham-Bryce.

MEETING DATES, PLACES AND TOURS

December 4 - 6, 1979. . . . . Michigan Horticultural Society, Convention Center, Grand Rapids. Contact J. Hull, Department of Horticulture, Michigan State University, East Lansing, MI 48824.

January 7 - 30, 1980. . . . . Fruit Tree Study Tour to England, South Africa and France, IDFTA.

February 27 - 29, 1980. . . . 23rd Annual Conference, IDFTA, Kalamazoo, Michigan.

June 17 - 18, 1980. . . . . Orchard Study Tour, IDFTA, West Virginia and Virginia.

August, 1980. . . . . (days not confirmed) High Density Symposium, Merano, Italy.

SUMMER IN JANUARY

The Study Tour to South Africa, France and England is almost filled. The Tour leaves January 7 and returns January 30, 1980. Enroute to South Africa, one day will be in London and one at East Malling Research Station. 14 days will be spent in South Africa seeing the fruit industry, marketing channels and some other interest points. On the return, three days will be spent in Southern France in the Mediterranean fruit belt. Those interested, please contact Bob Carlson, Horticulture Department, Michigan State University, East Lansing, MI 48824.

PUBLICATIONS AVAILABLE

Research Report 379 - Nutrients in Michigan Fruit Crops. Bulletin Office, Michigan State University, East Lansing, MI 48824, U.S.A.

Compact Fruit Tree, Vols. 7, 9, ($2.00 each), Vol. 10 ($5.00 each), Vol. 11 ($10.00 each) and Vol. 12 ($12.00 each), 303 Horticulture, Michigan State University, East Lansing, MI 48824, U.S.A.

North American Apples: Varieties, Rootstocks, Outlook. ($8.50) Michigan State University Press, South Harrison Road, Michigan State University, East Lansing, MI 48824, U.S.A.

Modern Fruit Science. Horticulture Publications, Rutgers University, Nichol Avenue, New Brunswick, NJ 08903, U.S.A.

History of Fruit Growing in the U.S.A. and Canada. ($16.95) American Pomological Society, 103 Tyson Building, University Park, PA 16802, U.S.A.

NOVA SCOTIA - APPLES AND LIGHTHOUSES

Known as the Atlantic Playground of Canada and for its quaint fishing villages, lobsters, and lighthouses, Nova Scotia is an unlikely candidate for apple production. However, the beautiful Annapolis Valley, where the majority of the apples are produced, is farther south than the entire state of Washington. Enjoying a growing season from May 24 to October 1 with 45 inches of rainfall per year, 11 inches during the growing season, Nova Scotia is climatically suited for fruit. The tempering effect of the huge bodies of water that surround the province produce what the local folks call two months of winter with temperatures of 0° to 10° F and two months of summer with temperatures of 75° to 80° F. The other eight months are transitional fall and spring, thus lessening the effects of frost as well as affording an attractive location for human habitation.

Nova Scotia's 90 growers produce two million bushels of apples on nearly 9,000 acres, and as in most apple producing regions, tree number is increasing faster than acres planted. With a population of 900,000, the province depends on an export market to the United States. Growers face the same problems that confront their U.S. neighbors: lack of labor and increasing costs of operation and shipping.

The major varieties grown are MacIntosh, Gravenstein, Macoun, Spartan, Red Delicious, and Golden Delicious. The Beautiful Arcade (B.A.) seedling rootstock is popular due to its adaptability and cold tolerance; however, it is too vigorous for some growers. There is a large interest in MM 101, MM 102, MM 103, interstems, and MM 106. Full dwarfing rootstocks, such as M. 9 and M. 26 are not used to any great extent because they require staking on the Annapolis Valley's light soils. Spur types are being used in new plantings, but some growers find spreading and summer pruning too time-consuming. A system of pruning known as the 155 of Nova Scotia was introduced in 1971, in which trees are modified to fit a planting distance of 14 ft. x 20 ft., or 155 trees/acre.

Integrated Pest Control was developed in Nova Scotia in the early 1950's and is practiced widely. Although the insect control is not considered satisfactory by U.S. standards, it is adequate for Nova Scotian conditions. It is not uncommon to find a grower using only one or two insecticide covers a year. Major problems are winter moth, tarnish plant bug, as well as leaf roller, leaf miner, aphids, and mites.

Nova Scotia has nearly all the diseases that plague apples in the United States, such as scab, powdery mildew, collar rot, and there are some reports of fireblight. Replant disease and nematode problems are becoming more important as tree population increases. There is a growing interest in pre-plant fumigation.

Nova Scotia is truly Canada's ocean playground as well as a very progressive apple producing province. Any visit to Canada should include a stop at its seashores and its beautiful orchards of the Annapolis Valley. The authors would like to take this opportunity to thank the Nova Scotia Fruit Growers Association and the International Dwarf Fruit Tree Association for an educational and enjoyable summer tour. . . Steve Blizzard and Tara Auxt, West Virginia Univ.

CHERRY ROOTSTOCK - AN UPDATE

The need for hardy, dependable clonal rootstocks for the stone fruits is just as important as that for apple. Until recently, we have depended on various seed sources as rootstocks for cherry, peach, plum and apricot. One of the major obstacles in obtaining clonal (vegetatively propagated) rootstocks for these crops has been that these do not root as well from layering and/or cuttings as do apple clones. However, with new advances in propagation techniques, the development of new stone fruit rootstock will be more rapid. Of course, clones which root easily are most sought after, providing these have the necessary qualities.

The 'Colt' cherry clone developed in England is an unusual one in that it propagates easily by both soft- and hard-wood cuttings, more so than any apple clone. This shows that other plant material in the genus prunus must be there or can be obtained through breeding. Although the finding and developing of any clone takes time, "the search is on" at several research stations and progress from here on will be more rapid.

Dwarfing in a stone fruit rootstock is important, but hardiness, dependability and longevity are factors which are most needed. The 'Colt' cherry rootstock was first thought to be quite dwarfing, but more recent observations indicate that it is semi-dwarfing to semi-vigorous.

Two generic types of cherries are commercially grown, the avium or sweet and the cerasus or tart. In the sweet group, many cultivars are grown whereas in the tart, 'Montmorency' is the major cultivar in cultivation. In general, the Mazzard seedlings are used as rootstocks for the sweet cultivars and Mahaleb for the tarts, although both sweets and tarts can be budded on either with some varying results, depending on soil, location, etc. Early indications show that 'Colt' is bud compatible with both sweet and tart cultivars. This could

be an advantage both to the nurserymen and the growers. Many other characteristics have to be checked out before it can be universally suggested as a clone rootstock for cherries. Soil adaptability, temperature tolerance, disease resistance, uniformity, longevity, productivity and so forth are a few of these characteristics needed in a rootstock.

As soon as some of these characteristics are established, 'Colt' will be available, because of its excellent propagation characteristic. Small quantities of trees are already in grower test orchards.

In developing dependable fruit tree rootstocks, the fruit industry support through the Rootstock Research Foundation is of tremendous importance to keep the enthusiasm up and the research programs active and productive. . . RFC

INTERNATIONAL

The mode of travel and the desire for exchange of information bring many visitors here and elsewhere. During the summer, two fruit grower groups from Japan visited the states and Canada. Another group of 33 growers and pomologists from Austria spent a couple of days in Michigan and then moved to other fruit growing areas.

The value of such visits and exchange back and forth of up-to-date research and grower information is hard to establish, but for certain it fosters good relations and stimulates the imagination. The well-traveled person, be they grower, researcher or educator, is a well-informed, progressive and useful one.

That travel improves the person but also the inter-country relations is verified by the group (sponsored by the IDFTA) who traveled to the Peoples Republic of China in 1977. That group visited several communes, universities, factories and fruit tree research stations. During these visits, contacts were made with students, educators and workers of all kinds. Slide talks were given by group members at some of the stops depicting what the U.S.A. fruit industry is currently advancing. Discussion sessions at the larger farms brought out some of the comparisions of crop production and food utilizations, etc. Literature (up to weight allowances) on fruit research and production was distributed at universities and experiment stations. This was very well received because no exchange had occurred during the past three decades.

The group returned with a feeling of having established genuine personal and national contact with people who are actually hungry for more education and freedom. In fact, this fall MSU has accepted two people from the Peoples Republic of China in the area of horticulture as Visiting Research Associates. All of us gained by this travel experience.

IDFTA INFORMATION BROCHURE

Copies of the IDFTA Information Bulletin are available by contacting Robert Carlson, Department of Horticulture, Michigan State University, East Lansing, MI 48824, U.S.A. The Bulletin has a membership application on the back.