

The Bee Line

rcd 10-12-95

NEWSLETTER OF
WESTERN CASCADE FRUIT SOCIETY
A NON-PROFIT EDUCATIONAL ORGANIZATION

FALL 1995

Apples Pears Figs Grapes Kiwi Cherries Nectarines Peaches Nuts Blackberries Raspberries Strawberries Blueberries Currants Huckleberries Gooseberries Plums

1995 FALL FRUIT SHOW

SATURDAY, OCTOBER 28 10:00 a.m. to 5:00 p.m.

SUNDAY, OCTOBER 29 10:00 a.m. to 4:00 p.m.

at

Edmonds Community College
200th Street SW and 68th Avenue W
Lynnwood, Washington

Admission: Adults \$3.00

Age 16 and under FREE

APPLE TASTING—APPLE IDENTIFICATION—SPEAKERS
CIDER PRESS RAFFLE—FRUIT DISPLAYS—EXHIBITS
AND FREE PARKING

SATURDAY

- 10:30 a.m. Budding and Grafting Fruit Trees
Gary Moulton, Research Associate, WSU Mt. Vevon Research and Extension Unit
- 1:30 p.m. The Fruit Garden--Getting Started
George Pinyuh, King County Extension Agent, retired
- 2:30 p.m. Edible Landscaping
Kristan Johnson, Landscape Architect, Abundant Landscaping

SUNDAY

- 10:30 a.m. The Latest on Kiwis
Bob Glanzman, Puget Sound Kiwi Co.
- 1:30 p.m. The Fruit Garden--Getting Started
George Pinyuh, King County Extension Agent, retired
- 2:30 p.m. Environment Friendly Insect Control
Cisco Morris, Master Gardener, Seattle University Head Gardener

INSTRUCTIONS FOR MYSTERY APPLE IDENTIFICATION

Our expert apple identifiers will again be at the Fall Fruit Show to identify your mystery apple. To assist them, please bring four to six specimen (if you don't have that many, bring what you have) of the fruit you want identified, with stems and free from blemishes. The fruit should be typical in color, size and shape for the tree. **DO NOT WASH OR POLISH.** Refrigerate the fruit in a plastic bag if it has to be stored for more than one week.

You may be asked: when was the fruit picked?

- is it from a single tree or from a row of trees?
- is it from an old orchard or a new planting?
- when is the fruit ripe and how well does it keep?
- is the tree upright spreading or willowy?
- does it bear on the shoot tips?
- is it damaged by scab or mildew?
- is it good fresh?
- is it good cooked?

SUBMITTING FRUIT FOR DISPLAY

The major feature of our Fall Fruit Show is the displaying of the many varieties of fruit grown by our members. following are instructions for submitting fruit for display:

Bring 5 - 7 specimen (less if that's all you have) of the best looking ones of each fruit variety you wish to display (even if you have only one, bring it-it may be the only one of its kind there!)

For each sample prepare a 3" x 5" card listing the variety name and any other information you wish to share: harvest date, or any other pertinent information

Prepare a larger sign 8 1/2" x 11" (or so) with your name and the geographical growing area. Plates, which hold three to five specimen, will be provided. If you have fruit to spare, it would be nice to have some for the tasting display.

Orel says that if you have only a few samples of fruit to bring them. All displays are welcome.



COFFEE, TEA, MUFFINS AND VARIOUS SNACKS WILL BE AVAILABLE AT THE SNACK BAR



DIRECTIONS TO EDMONDS COMMUNITY COLLEGE

Southbound on I-5:

Take exit 181 (196th St SW). Go west (right) on 196th to 68th Ave W, south (left) on 68th Ave W to 200th. Right into college campus

Northbound on I-5

Take exit 179 (220th St SW) Go west (cross over freeway) to hwy 99. Go north (right) to 200th St SW, continue west to college campus.

FOLLOW WCFS FALL FRUIT SHOW SIGNS

NEWS FROM THE BOARD ROOM

At the August 5, 1995 Board meeting, Ernie Mazzel's resignation, due to his health, was regretfully accepted. A replacement to serve in the chapter liaison position is being sought.

The Board approved the purchase of a commercial quality three panel display for use at exhibits, fairs, Fall Fruit Show, Spring Meeting and at chapter events. Dick Tilbury, as Education Chair, will take care of procuring it.

The Board passed the motion to prohibit the sale of any fresh squeezed cider or the pressing and squeezing of any cider at any WCFS or chapter activities.

The Board approved the date of March 2, 1995 for the Annual Spring Meeting and Scionwood/Rootstock sale. Orei Vallen researched three sites in the Puyallup area for location and cost. The Kent National Guard Armory \$445.00, Almendinger Center \$400.00, the Puyallup Methodist Church \$270.00. The board approved the Puyallup Methodist Church site.

Next Board meeting October 7, 1995 10:00 a.m. at the University Library, Seattle.

At the June 17, 1995 Board meeting it was approved to contribute \$1500.00 to WWTFRF for research at Mt Vernon. This is in addition to the \$222.00 members contributed, in addition to their dues, in 1994 for research. The following letter was received from WWTFRF to the Treasurer:

"Dear Evelyn: On behalf of the Foundation, I would sincerely like to thank you and the **WESTERN CASCADE FRUIT SOCIETY** for the very generous donation made to the Western Washington Tree Fruit Research Foundation. The **WESTERN CASCADE FRUIT SOCIETY'S** donation of \$1722.00 is greatly appreciated by the Foundation. The funds will be put to good use by the staff at the station to support their continuing tree fruit research at the WSU Mt Vernon research station. Sincerely yours, Larry G. Mowrer, WWTFRF Membership Co-Chairman."



A WORD FROM THE PRESIDENT, JOE ZEPPA: Those of you interested in helping at the proposed Mt Vernon demonstration orchard, or in forming a new chapter in that area may call Frank Lacey (360) 856-1220. He has volunteered to act as coordinator and is investigating the possibilities of enough interest to form a new chapter.

Anyone interested in serving on the board, please call me at 524-8943.

SPRING 1995 APPLE GRAFTING TOOL TEST

Chuck Parkman P.O. Box 128, Carlsborg, WA 98324

During mid-April 1995 a grafting tool success test was performed using a Hungarian grafting tool, an Italian grafting tool and a standard grafting knife in order to compare success rates. A total of 375 bench grafts on bare root M-9, Mark and M-111 rootstocks were made using about 80 varieties of apple scions. Laboratory parafilm was used to wrap all scions grafted by the tools, while knife graft scions were left uncovered except for graft sealer applied to the upper ends of the scions. I did the tool grafts while the knife grafts were done by Larry Bareilo. We are both members of the North Olympic Fruit Club Chapter of WCFS and have both been grafting for 8 or 10 years.

TEST RESULTS

<u>Hungarian Tool</u>	162 grafts	109 successful grafts	53 failed grafts*	67% success
<u>Italian Tool</u>	134 grafts	130 successful grafts	4 failed grafts*	97% success
<u>Grafting Knife</u>	79 grafts	59 successful grafts	20 failed grafts*	75% success

* Failed grafts included those where buds opened on the scion with several leaves, but no new wood growth took place.

The Hungarian grafting tool was purchased from A. M. Leonard, Inc., P.O. Box 816, Piqua, Ohio 45356

The Italian grafting tool was purchased from Bond Manufacturing Co., P.O. Box 2010, Benicia, CA 94510

APPLES and BEES and MORRIS X. SMITH

by Richard Yost
Pacific Farmer, January 1995

Bill Rogers was right. So was the lady at the post office. "If you're looking for someone who's really great to talk to, give Morris Smith a call," Rogers, the Oregon State University Extension agent for Lincoln County, said. "When Morris comes into the office I put away all my work and get ready to listen and to learn. I don't do that for many."

Having gotten lost on the way, I stopped by the post office at Eddyville, halfway between Corvallis and Newport, for directions. "You're going to interview Morris? Oh, that will be interesting. He's really quite a guy", the clerk said after giving directions.

Five miles down Oregon Highway 20 stands the remains of Chitwood, a town that is certainly a lot more interesting getting to than visiting. A left off the highway takes you to and through one of the few remaining *working* covered bridges (no roadside tourist attraction this) in Oregon. Pass through and on your left is the dilapidated remains of the Chitwood general store and straight ahead is Morris Smith's.

Apples, bees, a covered bridge, the old mercantile and Morris X. Smith have been at the center of Chitwood since 1910. What does the "X" stand for? "Nothin'," said Morris. "Dad said there probably wasn't a Morris X. Smith in the whole world and he figured it was about time there was one." Like the rest of Chitwood, there isn't even much left of the house that Morris was born in back in 1910. So, he simply moved into a small trailer parked in the front yard, next to his much beloved garden and orchard.

Not one to let his 84 years nor handicap - his leg was shattered in a mining accident when he was about 21 - slow him down, Morris is more than ready, willing and able to give a tour of his garden and apple orchard to anyone who can catch him at home.

"I grew up around apples," Morris explained. "When my parents moved to Chitwood, one of the first things they did was plant apple and other fruit trees. Today I have 32 varieties of apples, and nine each of pears, plums and prunes." And if you have any doubts that Morris doesn't know each and every one, just ask. He will give you a rundown on each variety, including its history and how it likely got to Oregon. On several of the rarer varieties, he will also tell you where the one or two other trees are in the region.

"Take my Palouse apple tree," Morris said. "It was developed over in eastern Washington. My dad brought one here to the farm and there is another one in the Pioneer Orchard out on Sauvie Island. And then there is the Pewaukee apple. There is another this side of Burnt Woods and another in Toledo."

Morris's knowledge of apples goes far beyond those the has in his orchard. His knowledge of varieties is so broad he is a member of the Home Orchard Society's apple identification team. Go to just about any fruit show - Morris says there's probably one a week in western Oregon or Washington - and he is likely to be on hand, talking apples and identifying any brought in by the public. "We ask people to bring in about half a dozen; to leave the stems on, and not to clean or polish them," Morris said. "If we can't identify it by sight we'll also taste it. If we still can't identify it we'll ask the owner about its background, its age, and things like whether it is upright growing or spreading. Every once in awhile we get stumped, but not often."

He adds that his "Bible of apples", used for identification, is "Apples of New York", published in 1903. "It has just about any apple worth mentioning," He said. "Of course there have been a lot of different varieties developed since then. Apples are like cars and cameras...they are always putting out something new."

Asking Morris what his favorite apple is is a foolish question. And he has been asked so often it would be hard to find anyone who could sidestep the issue with more grace. But, ask you must. "Well, it all depends," he starts off. "Of the varieties I have, there are those that ripen early and those that come on later. So I guess you'd have to say I have favorites for each part of the season." If pressed to make at least a couple of recommendations, his tried and true response will be, "Well, I have my personal choices, but it's a matter of taste. Everyone's taste is different."

If pushed further he might concede that, well, if you have kids they *might* like the sweeter tasting Yellow Transparent or the Red Astrachan. They are early apples and are good for pies. Then again there is the Gravenstein, the King, the Northern Spies, the Rhode Island Greenling, the Spitzenberg, and Oregon's own Golden Gem and Vanderpool.

He will concede that while the best known of the apples, the Red Delicious, "is great when it's tree ripened, you could give me a truckload(of those high production types headed for the grocery store) and I wouldn't take them. Those high production apples are better for cleaning your teeth than they are for your stomach."

Morris's passion for apples is matched by that for bees.

As with apples, he grew up with bees, first helping his father and later setting up his own hives. Over the years Morris's specialty has become removing bees from unwanted places. If you live in the Lincoln County area and have a nest in a garage, attic or other location where bees just aren't welcome, the person you are likely to call will be Morris. "I have all kinds of special tools I've made to get bees out of difficult locations," Morris explained. "In fact, I usually first visit the place to see what the best way to remove the hive will be. I've taken them out of garages, houses, trees and just about every other place bees can get into. Sometimes you have to remove siding and cut holes in the walls. Then I cut the combs out and put them in buckets. In places where it's too hard to get to the comb, I'll use a one-way bee trap."

Once the bees are removed it's important that wire mesh be stapled over the opening because if you don't it won't be long before other bees go back in.

"Probably the question I get asked the most is 'How much is it going to cost?' I usually don't charge anything, although I do appreciate help in covering my expenses. Quite often I'll get a great lunch and an hour or two of good talk and that pretty much makes it worth my while. The only people I do charge are the ones who think I should do it for free," he added with a laugh.

When he's not in his orchard or removing hives or tending his own hives - he has eight or nine, down from 35- Morris can most likely be found in his garden which is probably about as productive a bit of God's Green earth as you would hope to find.

The raised bed crops were pretty much harvested by the time I stopped to visit, as were the Marion berries, blueberries, Logan berries, raspberries and just about every other berry you care to name. Last to go are the huckleberries which Morris keeps caged to keep the birds out. Even in mid-November the branches hung heavy with clusters of the small dark berries.

"I've got a deal with several ladies in the area," he said. "They stop by from time to time and help me out and each has a berry she will harvest. These," he says, holding up a gallon bucket of huckleberries, "I picked for a friend of mine in Newport. He's from Salvador and promised me he's give me a Salvadoran meal if I came by. That's where I'm heading as soon as we are through. I like to keep busy."

Ed's note: Morris X. Smith will be at the WCFS 1995 Fall Fruit Show, to identify your mystery apple, with the other members of the "team": Loren Mills, Home Orchard Society president, John Walker and Wayne Huffstutter.



YOU ARE NEEDED AT THE FALL FRUIT SHOW ALL VOLUNTEERS HAVE FREE ADMISSION

Can you help at the Fall Fruit Show? You can make a difference! We need a coordinator for the volunteers at the check in table, selling tickets. This job would include scheduling the volunteers, usually in four hour shifts, two per shift. Ray Elder had volunteered to do this, but his health problems caused him to withdraw. Contact Evelyn Hoyme **484-3835** to volunteer.

Here's where you can help at the Fall Fruit Show. Take your pick, call the ones designated, have fun:

Friday evening set up and/or Sunday take down: Bill Davis 771-8978

Tasting Table: Walt Lyon 483-5574, or Bill Davis 771-8978

Membership Table: Dick Tilbury 723-9009

Raffle Tickets: Marlene Falkenbury 522-2273

Entry Tickets: Evelyn Hoyme 485-3835

The success of this event is directly related to the volunteers who make it run smoothly.

EDUCATION RESOURCES FOR THE FRUIT GARDENER

by Dick Tilbury, WCFS Education Director

What educational resources are available for the individuals with a yen to establish a hobby orchard or expand their landscape by growing some fruit? Based on my experience over the past ten years, here are some ideas.

First and foremost are contacts with other individuals with like interests. Talk to your friends and neighbors about their experiences in growing fruit in this area. An excellent means of contacting others with like interests is to join and participate in a local fruit interest organization such as the following:

Western Cascade Fruit Society	18709 24th Ave SE	Bothell, WA 98012	\$10.00 - \$18.00 for family- 6 chapters
Home Orchard Society	P.O. Box 230192	Tigard, OR 97281	\$10.00 family- several chapters
North American Fruit Explorers	Rt. 1, Box 94	Chapin, IL 62628	\$8.00 -1 year or \$15.00 2 years
BC Fruit Testers Association	RR3/2618 Sooke River Rd	Sooke, BC V0S 1N0 Canada	\$10.00 (C) single \$12.00 (C) family

All of the above organizations have outstanding quarterly newsletters just full of informative articles. They all have annual meetings and most have fall fruit shows. Some maintain lending libraries of books and/or videos.

Washington State University (WSU) has some great publications on fruit growing available through your local County Cooperative Extension office. Contact them for a list of fruit growing publications (CO 506, publications catalog). I find the following very helpful:

EB 0937	Tree Fruit Varieties for Western Washington
EB 1436	Apple Cultivars for Puget Sound (in color)
EB 1640	Growing Small Fruits in the Home Garden
PNW 0062	Grafting Fruit Trees

Become a Master Gardener (MG) volunteer. You will receive approximately 60 hours training by WSU personnel (4 hours on tree fruit, 4 hours on small fruit plus additional hours on insect pests and diseases of fruit) in exchange for 60 hours of your time as a volunteer MG. In King county, for example, they operate 27 public information clinics throughout the county and are available Monday - Friday from 10 to 4 to answer questions by phone (206-296-3440).

King County Cooperative Extension has developed over 200 audio tapes of 3-5 minutes on various gardening subjects including fruit. The tapes are available 24 hours a day by phoning 296-DIAL (296-3425). If you are outside the toll free area, phone 1-800-325-6165 and ask the operator to connect you with Dial Extension. When you call you will receive instructions on how to obtain the list of all the tapes. About 30 are devoted to fruit gardening subjects. Other counties have similar programs.

WSU operates several agriculture research stations in western Washington and has field day/open houses where much can be learned. Check with their Puyallup research station for the small fruit field day. For tree fruit research the research station at Mt Vernon is your source.

The Western Washington Tree Fruit Research Foundation (WWTFRF) in cooperation with WSU sponsor a number of fruit harvest days and spring and fall field day/open houses at Mt Vernon. WWTFRF is a nonprofit organization established to collect and disperse funds to sustain existing research and to promote new research in tree fruit at the WSU Mt Vernon station. WSU budget cuts and announced termination of all tree fruit research at Mt Vernon prompted the formation of WWTFRF in 1991.

Fruit harvest days are open to WWTFRF members only. The spring and fall field day/open house events are free to WWTFRF members and \$10.00 for all others. Membership in WWTFRF, 8323 - 71st Ct SW, Tacoma, WA 98499, is \$20.00 for single, \$30.00 for family, annually. Much information can be obtained by attending these events and you can even volunteer to help the tree fruit research staff at Mt Vernon--very educational.

PUBLICATIONS AND PERIODICALS: Most people enjoy learning by reading a book or magazine at their leisure. For those I have some suggestions. Subscribe to Good Fruit Grower magazine, P.O. Box 9219, Yakima, WA 98909, for \$30.00 per year. (As a WCFS member you may get it at the half price group subscription rate each spring.) They also publish the following books:

Orchard Pest Management	\$35.00	Intensive Orchard Management	\$19.95
New Directions in Tree Fruit Pest Management	\$10.00	Pollination and Fruit Set	\$ 7.50
Tree Fruit Nutrition	\$15.00	Tree Fruit Irrigation	\$17.00

To order any of the above books, call Good Fruit Grower at 1-800-487-9946

Another fruit related magazine is the Western Fruit Grower, \$14.00 year from Meister Publishing Co. 37733 Euclid Ave, Willoughby, OH 44094

A source of books that I find extremely interesting is the Royal Horticultural Society (RHS) of England. this is an organization of about 70,000 members worldwide, and their latest catalog lists a total of 725 books for the gardener! I have found the following RHS books of great value:

The Fruit Garden Displayed by Harry Baker
Fruit by Harry Baker
Pruning by Christopher Brickell
Plant Propagation by Phillip McMillan Browse

Two other extremely interesting books from England are:

The Apple Book by Rosanne Sanders (Ed. note - out of print)
The Book of Apples by Dr. Joan Morgan

Another source of information is the Fruit Varieties Journal, a quarterly publication by the American Pomological Society. Membership is \$20.00 year through their business manager: Robert Crassweller, 102 Tyson Building, University Park, PA 16802.

An invaluable resource: Fruit, Berry and Nut Inventory published by Seed Saver Publications, 3076 North Winn Rd, Decorah, IA 52101. This is a 518 page book containing an inventory of nursery catalogs listing all fruit, berry and nut varieties (with a description) available by mail order in the US. (Ed note. WCFS makes group purchases available to members on request. At present, there are 6 copies that will be available at the Fall Fruit Show.)

NURSERY CATALOGS Nursery catalogs are very valuable source of information on fruit growing. The following lists some of the nurseries that have informative catalogs:

Bear Creek Nursery	P.O. Box 411	Northport, WA 99157	no phone-specialty nuts
Burnt Ridge Nursery	432 Burnt Ridge Rd	Onalaska, WA 98570	(360) 98502873
Cloud Mountain Farm*	6906 Goodwin Rd	Everson, WA 98247	(360) 966-5859
Hartman's Fruit Tree Nursery	713 21st St SE	Puyallup, WA 98372	(206) 848-1484
Northwoods Retail Nursery*	27635 Oglesby Rd	Canby, OR 97013	(503) 266-5432
Puget Sound Kiwi Co	Bob Glanzman, Prop	Seattle, WA	(206) 523-6403
Oregon Exotics	1065 Messenger Rd	Grants Pass, OR 97527	
Raintree Nursery*	391 Butts Rd	Morton, WA 98356	(360) 496-6400
Southmeadow fruit Gardens	Lakeside MI 49116	(616) 469-2865	catalog free-handbook \$10

* These nurseries also offer educational classes/workshops to the general public, usually in March or early April

In conclusion I wish to mention two additional educational resources that I have found very informative:

- 1) The Washington State Horticultural Association annual meeting. This is a 2 ½ day conference plus trade show oriented toward commercial fruit growers, generally held the first week in December in either Wenatchee or Yakima. Subjects are mainly apple and pear production with some stone fruit lectures. their speakers come from all over the world. Cost is about \$50.00
- 2) The Farwest Show and Ornamentals Northwest Seminars. this is another large conference plus trade show held around the 3rd or 4th week of August at the Oregon Convention Center in Portland. there are usually 3 days of seminars open to the general public. It is sponsored by the Oregon Association of Nurserymen in conjunction with the Oregon, Washington and Idaho Cooperative Extension Services, and the British Columbia Ministry of Agriculture, Fisheries and Food. this year's program included a 3 hour seminar on berries and grapes for the home gardener. Cost is about \$35.00.

I've just scratched the surface on this subject. this article is not intended to be all inclusive. If you have other favorite educational resources, please jot them down and send them to our WCFS newsletter editor at 18709 24th Avenue SE, Bothell, WA 98012 to share with our members.

Ed Note: Many of these publications will be available to look at during the Fall Fruit Show. You can then judge whether they are for you. Some publications are aimed at the commercial grower, but there is information there that can be used by the home orchardist, that is why I use them in *The Beehive*. Yet another reason to go to the Fall Fruit Show!

HE'S A MAN WITH A MISSION

by Linda Keene, Seattle Times staff reporter

Head gardener Jim "Ciscoe" Morris is talking faster than a weed eater while scurrying across the sumptuous landscape he tends at Seattle University, and whoa, stand back, his arms suddenly thrash out at invisible wasps as he recalls the time he wore a bee suit in the middle of the night to bag a hornet's nest and then ran across campus with the bag of angry wasps overhead, in the ghostly white suit, and passed a transient in the bushes sipping wine, who "looked at me, dropped the bottle and has been cured of drinking ever since."

Morris laughs and then bolts over to a beautiful birch tree, awed once again by its beauty. "Dippety-do!" he declares, describing the green slime that once dripped from these delicate leaves onto the heads of students and school dignitaries, until he introduced 20,000 Green Lacewings to eat the aphids that produced the slime. He has not had to spray pesticides since. (And it can now be disclosed that a certain administrator, with whom Morris once discussed the aphid problem, unknowingly had aphids in his hair at the time of said conversation.)

The trees are resplendent now, lovely accents on the only campus in Washington to be declared a wildlife sanctuary, so designated because of its vast, chemical-free setting. Since Morris came here 17 years ago, the grounds have metamorphosed from untended afterthoughts to grounds of glory. They are also a backdrop for his budding career as a radio and television personality. Weekly, he appears on KIRO-TV to discuss the latest invasion of mealybugs, and has his own call-in show on KIRO radio. It's hot talk for the horticulture set.

Morris, 46, has more energy than most of the ants he likes to collect and wiggle before television viewers. He gives talks, leads tours, designs gardens, moves trees, weeds, seeds and goes home to a cute cottage in Wedgewood where he and his wife, Mary, "argue incessantly" over who gets to garden what part of their yard.

"We finally divided it right down the middle," says Morris. "When people come over, we stand outside and say (he clenches his teeth for this part), "Which side of the garden do you like best?" "

Well, if you must ask, Mary's side has a nice flowing feel to it and Ciscoe's is a bit more structured and, hey, where are you going? Morris is bounding over to a fragrant King George Loderi Rhododendron on "his" side of the garden. With an excited jump, he exclaims: "Honest to god, you cannot smell it without your socks rolling up and down."

It is such a wondrously original comment that one is immediately persuaded to see things his way. Yes! Ciscoe's garden is better than Mary's! She sighs at this news. Competition is a trademark of their relationship, which began when she worked on an SU gardening crew 16 years ago. Since then, life has been rollicking. In a nicely understated assessment, she calls her husband "energetic." "He can be out all day and come home pooped, and I merely have to mention something like tennis and he'll say, "Let's go.'" Is it tiring to keep up with him? "Well, I don't try."

Morris has been passionate about plants ever since he was a 10-year-old lawnboy at a church in his home-town of Wauwatosa, Wisconsin. As a young adult, he hitchhiked to Seattle and earned a degree in horticulture from South Seattle Community College. He soon joined the gardening crew at SU and is now the manager of grounds and landscaping. His office is a beat-up little affair across campus on 12th Avenue, filled with tools, machines, plants, seeds, a bug collection that includes a cockroach from Madagascar, and funny things on the wall. A cartoon features a picture of a houseplant telling a woman: "Look, I appreciate your talking to me, and I know you mean well, but you're boring."

Kids call him "Mr. Bug Man," due to his school talks on insects, and colleagues fondly call him the university's most notorious employee. "Over the years, he's had a bunch of different characters on his crews," says Byron Lynch, a plant electrician who was hired the same month Morris was in 1978. "They've run vehicles over things, turned sprinklers on the president's luncheons, that sort of thing." As for Morris himself, Lynch admiringly says, "He's always butting heads with the administration. He's probably one of the few people who's ever changed the president's mind on anything. Ciscoe can talk water out of a stone if you give him long enough."

For example, Morris persuaded President William Sullivan to save some plants that were going to be destroyed when the Piggott Building was expanded last year.

Another time, "When they wanted to trash a bunch of trees, he was out there throwing himself in front of the bulldozers," says Lynch. Well, that's a figure of speech. Morris was actually throwing himself in front of Sullivan and other administrators, until they agreed to let him move the plants to another spot on the 52-acre campus.

That was persuasive indeed, particularly given the fact that Morris once released bugs in the president's dining room and "got into a little trouble for that," he says. But what could he do? "I was trying to get rid of mites on a palm tree in there."

Sullivan declined to comment specifically on these horticultural highlights, but sent word through his spokesman, Paul Blake, that "Ciscoe and his crew are a valuable part of the campus. They give us a sense of pride."

Never mind that Morris and his crew once ran a backhoe into a gas line, forcing the evacuation of two buildings. Or, on another occasion, struck a water line that thrust Morris "four feet into the air!"

Seattle University has become one of the most beautiful campuses in Washington, a wildlife sanctuary for birds, bugs and other critters, thanks in large part to the wiry, storytelling gardener, and did he ever tell you about the time he was jumped by three security guards in the middle of the night when he was out prowling for weevils. . . ?

Ed Note: Perhaps we'll get to hear about that. Ciscoe is one of the featured speakers at the 1995 Fall Fruit Show. ☺

ORGANIC CORNER

by Ted Swensen, Pome News - Home Orchard Society Newsletter

Boil one pound of chopped rhubarb leaves in one quart of water for 30 minutes. Strain and use as a spray against aphids and other pests.

Or, try using crushed tomato leaves as a spray for leaf-spot diseases. Tomato leaves contain solanine, a chemical that has an inhibiting effect on black spot fungus. Grind two cups of leaves to a puree. Add five pints of water and one ounce of cornstarch. Label and keep refrigerated.

Diatomaceous Earth (DE)--consists of the cell walls of diatoms, microscopic golden-brown algae. The cell walls become microscopic, razor-sharp daggers, cutting the soft-bodied insects or causing irritation to snails and slugs. Most effective when dry. DE's killing action is mechanical rather than poison. It will persist in the environment for long periods of time. Use face mask if applying DE dust.

PACIFIC AG NOTES

by Richard Yost Pacific Farmer August, 1995

Everything's Just Peachy

I don't think Georgia's peach growers are losing any sleep over it, but **Harry Lagerstedt** and his "Gang of Five" peach variety group are making headway in developing peaches for west-side peach enthusiasts. Lagerstedt, who is a retired OSU and USDA research horticulturist, farms just across the river from Corvallis. For the past five years he and **Randy Bays**, **Banks**; **Dave Weil**, Dundee; **Stuart Olson**, Salem; and **Roger Detering**, Harrisburg, have been evaluating peach varieties under the diverse growing conditions of the Willamette Valley. The various varieties come from the Harrow Stone Fruit Breeding Station in Ontario, Canada; the New Jersey Experiment Station; the South Haven Station in Michigan; and other private breeders.

Here are some of the better varieties Harry and the others have tested, listed according to their order of ripening:

- *Springcrest*, a Georgia peach that ripens in mid-July. It is a clingstone, vigorous, and needs to be thinned early to get good size.
- *Candor*, from North Carolina, ripens in mid-July. It is a clingstone, that hangs well and has non-browning flesh.
- *Redhaven*, from Michigan, ripens late July. It is a clingstone that tends to split pits, is susceptible to brown rot and is good for canning and freezing.
- *July Elberta*, from California, ripens late July. It is a freestone peach and a consistent producer. It hangs well and is good for canning and fresh market.
- *Harko*, from Harrow, Canada. This is a late July nectarine with good quality and flavor and is vigorous.
- *Suncrest*, a California, late August, freestone peach. It is an excellent, all around peach and a consistent producer, but is susceptible to leaf curl and bacterial canker.
- *Veteran*, from Ontario, is a mid-August, freestone peach. It is a consistent producer with good disease tolerance, but bruises easily and drops fruit readily.
- *Improved Elberta* (Early Elberta) is from Utah. It is a popular, well-known peach ready for harvest in late August to early September. This is a consistent bearer, good for U-pick but tends to premature fruit drop.

KNOW YOUR ENEMY

by Lynn Long, Good Fruit Grower May 15, 1995

Last spring, I had an opportunity to study the tree fruit industry in southern Europe. I visited many orchards and spoke to growers in Italy, France, Spain, Switzerland, and Germany. One of the things that impressed me most about European orchardists was their desire to understand pest populations in their orchards.

The introduction of integrated fruit production (IFP) programs throughout Europe is the primary cause of this increased awareness. IFP regulations require growers to justify, in writing, any pesticide application. Extension Service personnel have responded to this need by training growers in pest identification and monitoring techniques.

The best of these training programs was in the South Tyrol Valley of Italy. Twenty four Extension agents service an area of 42,000 acres. Once a week, agents put on mini-workshops throughout the region, teaching growers how to identify and monitor various pests such as aphids, leafrollers, and leafminers. Growers then go to their own orchard, scout for the pests, and determine if control is necessary. Chemicals are applied only when needed, and potential problems are spotted before they become serious.

Fortunately, American growers are also learning the importance of orchard scouting. Unfortunately, these are sometimes hard learned lessons. This point is highlighted by an incident that took place several years ago in an orchard in Wasco County, Oregon. Cherries from one block were found infested with obliquebanded leafroller (OBLR).

Unfortunately, it wasn't until harvest that the grower, and field representative, knew of the infestation. Larvae were inside cherries and crawling on top of cherries in the bin. The grower lost thousands of dollars when the packing house refused several tons of harvested cherries and dumped them in the local landfill. Other cherries were left hanging on the trees, unharvested. This was a problem that could have been easily identified and controlled with an early season scouting program.

As disconcerting as this incident was, more common is the grower who applies a pesticide that isn't needed. Again, scouting can help this situation. This spring in Wasco County, growers and field reps scouted prior to bud break, looking for overwintering OBLR larvae. In several cases, larvae were not found, so sprays were not applied. Growers will continue to monitor these blocks, however, to make sure that insect populations are not building.

Scouting can also increase the effectiveness of a spray. In Oregon, tentiform leafminer on cherries can be controlled postharvest with Dimilin, an insect growth regulator. Dimilin prevents egg hatch but does not kill adult tentiform leafminer. It is important, therefore, that Dimilin be applied just before or shortly after egg laying begins. A poorly timed spray will be wasted, costing the grower money and causing increased damage to the orchard.

Scouting can take several forms, depending on the pest and the time of year. For example, early season OBLR scouting on cherries consists of clipping terminal buds from tree tops with pole loppers. Four samples are taken per tree from 25 trees per block. If more than one larva per block is found in these samples, a spray is indicated.

Monitoring later in the season (mid-May) can be accomplished using pheromone traps. These traps attract the adult male OBLR moth. Low counts (under 50 by May 31) indicate that another spray is probably not necessary. Since moths can be attracted to these pheromone traps from a great distance, high catches merely indicate a need to, once again, check the trees for larvae.

Scouting for a disease such as cherry powdery mildew can be accomplished simply by walking through the orchard and observing the location of the mildew in the tree. If it is not present or if it is confined to the lower portion of the tree, near the crotch, then a control measure generally is not indicated. However, if the humidity is high and the mildew is moving up the center of the tree, a spray needs to be applied immediately to protect the fruit.

Many growers simply look for potential problems every time they are in the orchard. If they see a problem developing, they ask their field representative to take a closer look and rely on his or her expertise to assess the situation. The important thing is that someone is looking. Someone knows the pest population in the orchard, and control programs are based on need.

Many growers are beginning to see that they can save money, protect the environment, and obtain better pest control through proper timing of sprays with a well-planned scouting program. Scouting will expose a problem before it turns into a disaster and will prevent unnecessary pesticide applications.

Lynn Long is O S U Cooperative Extension Agent for Wasco County. His column "Practical Grower" appears regularly in Good Fruit Grower.

BC CIDER

by Derek Bisset, BC Fruit Testers Association

I was at a party the other night when one of the guests, in all innocence, opened a bottle of BC cider. I found myself snapping a comment which made her pause, the glass half poured and the other guests turn to listen with questioning looks. I mad another comment and everyone laughed at the strength of my indignation. The more I tried to explain, the worse it got. Eventually I had to give up in embarrassment with incomprehension all round.

After that incident, I wondered at my own strong feelings and remembered where they came from too late to tell the story. Isn't it always that way?

I felt badly about shocking an innocent cider drinker, but I still feel that if some of our cider forebears were to return and taste, they would make similar comments and these would be based on the difference between tastes then and now. And I believe the difference would lie in the taste created by the varieties of apples used. For example, in 1916, according to Proulx and Nichols Sweet and Hard Cider, the varieties recommended wee such as Alexander, Duchess of Oldenburg, Gravenstein, Esopus Spitzenburg and others. Older varieties, I believe would have given a better cider.

Then I have also read a report done in 11931 for Summerland Research Station by the Cider research Station at Long Ashton in England using their experience to evaluate dessert varieties such as Rome Beauty, McIntosh, Newton, Winesap in the making of cider. The Long Ashton report evaluated juices pressed from individual varieties shipped from the Okanagan and commented on their insipid or too perfumed qualities. The report then pointed out ways in which the cider made from BC apples could be improved by blending and keeping the percentage of some varieties low in the blend. By the end of the report it seemed they were saying that a reasonable product could be made. Unfortunately they had already spoiled that idea by saying that of course this really could not be considered 'cider' at all. What were they talking about?

Proulx and Nichols suggest that tannin, acid and sugar are required in cider apples. The BC apples mentioned can be high in sugar and quite high in acid, but tannin is low in dessert apples. We would find apples with a lot of tannin too astringent to make good eating. It takes apples specially bred for cider-making, or some crabapples, to produce enough tannin to give a cider of the taste old timers would approve of; a taste I remember having as a youth after a day's haying long ago. These varieties can be found in the former Long Ashton collection in England, now relocated to the Brogdale Horticultural trust and described in the new Book of Apples by Joan Morgan and Alison Richards. This is a book many members interested in apples will want to get for its detailed description of 2000 apple varieties.

They consider cider best made when it includes varieties they call 'Bitter', with tannin levels above 0.2%. These have names like Chisel Jersey, Foxwhelp, Kingston Black, Tremlett's Bitter. Blending the juice of these, or the juice of suitable crabapples, with our sweet dessert and aromatics will give a much improved flavour to the cider.

It was the contrast between that remembered flavour after the heat of haymaking and the taste I knew my unsuspecting party guest was about to experience that occasioned my embarrassing outburst.

I know I'm right about my remembered taste. I was able to check it again recently with some Scrumpy from Merrydown Cider of Cobble Hill. I'm sure that there is a cider made with apples bred for cider making. It has refreshing qualities of sharpness and bitterness. It has the colour and the aroma of apples. It is packed with memories.

I will bring some to the next party. I suspect that a taste offered around will make my point much more elegantly than can be done with mere words.

The above article was published in the Spring 1994 issue of Fresh From the Cider Press, newsletter of the BCFTA

"Derek wrote this article prior to the WCFS Apple Buffs Tour of Western Europe in October 1994 (Ed note: see report in *The Beehive* Winter 1995) of which he was a member. Derek lives in Langley, BC having emigrated from Scotland. He was an excellent tour member, outgoing, always in good humor and keenly interested in everything, especially cideries.

Derek was usually in the lead asking questions of our cider hosts about orchard production, cider apples, varieties, blending, processing and the taste of the finished product. I'm sure we'll be hearing more from him on this subject as he develops his own cider making skills." Thus wrote Dick Tilbury when he submitted the article to the editor.

SOUTH AFRICA AND PEARS

Good Fruit Grower - June 1995

SOUTH AFRICAN SYSTEM PROMOTES EARLY PEAR YIELDS

While apple acreage in Washington State has grown dramatically over the past decade, pear acreage has been fairly stable. One of the main reasons pear acreage has been growing relatively slowly is the long period it takes for a pear tree to come into production, says Tim Smith, Washington State University Cooperative Extension agent in Wenatchee. "Typically, you're lucky if you get much of a crop before a decade," Smith said. "It's a whole lot more typical that you don't get into full production in ten to sixteen years. We even have blocks that I swear take twenty years until they come into full production."

This means that it's often difficult to make a new planting pencil out economically, and it prevents pear growers from being able to improve their profitability by swiftly switching varieties, as apple growers have done.

Yet halfway around the world in South Africa, pear growers are doing just that. Their industry, which is driven by consumer demand, is in a state of transition and growth.

The main reason pears are slow to come into production in the Pacific Northwest is because of a lack of suitable dwarfing, precocious rootstocks. The Quince rootstocks commonly used in Europe are not deemed winter hardy enough for the Pacific Northwest and are not compatible with d'Anjou, the major pear variety grown there. Most pear variety are grown on Bartlett rootstocks. The more precocious Old Home by Farmingdale rootstocks are difficult to propagate, and though they have been tested, they have not yet caught on in commercial orchards.

Smith, accompanied by Fred Valentine, field representative for Wells & Wade Fruit Company, Wenatchee, went on a mission this spring to find out how the South African pear industry manages to be so responsive to market changes. The trip was sponsored by the Washington Tree Fruit Research Commission.

The South African pear growing region is concentrated in the Cape Town area, which is the southernmost and coolest part of the country. Growers there use mainly the BP series rootstocks, which were developed some 70 years ago in South Africa. Smith and Valentine spent more than three weeks touring South Africa's fruit growing regions and visited pear orchards that were anywhere from one to 16 years old. This gave them insight into the evolution of the industry, along with growers' successes and failures in recent years.

The most commonly used rootstocks are the BP.1 and the slightly more vigorous BP.3. Smith said the BP rootstocks are probably no more dwarfing than Bartlett seedling and might produce large trees when planted at low densities in the more fertile soils of the Pacific Northwest.

Smith said the reason pear orchards in South Africa have evolved from 20-by 20-foot spacings by increments down to the 5-by 15-foot spacing that is the standard today has more to do with the training system than the rootstocks. "It turned out that the rootstock is only part of the story." South African pear growers have experimented with every kind of trellis system imaginable, with the exception of the Lincoln canopy, and concluded that pears hate trellises, Smith reported. "If you try to do to a pear what you do to an apple, a pear sulks," he said. "It will not do what an apple does. When you spread them, they react differently from when you spread apples."

The South African growers found that yields were consistently higher from freestanding trees. But that's not to say they just plant the trees and let them grow, Smith stressed. They have adopted a very refined training system, which was developed by Dr. Dan Strydom, former head of the horticulture department at the University of Stellenbosch, who is now head of the technical department for Ceres Fruit Growers, a tree fruit cooperative in the Cape district.

Basically, the system involves competition between trees to confine their root zones and limit their size. That's the reason spacings have been getting tighter and tighter. Little pruning is done during the first four of five years. Almost all training is done during the summer by removal of young shoots. Cutting is avoided wherever possible because it invigorates the tree, which decreases fruiting.

The trees are planted on berms about 18 inches high and 10 to 12 feet wide, which serve two purposes, Smith said. They provide warm soil that stimulates growth of the young trees' roots and gets them off to a good start, and they prevent workers driving their tractors close to the tree roots and compacting the soil around them. Smith said soil compaction may be affecting the long-term vigor and health of trees in Washington pear orchards. "We have some soils that I'm sure compact as hard as a rock, and the trees' roots will only slowly work their way into compact soil," he said.

While it does no harm to confine the roots through intertree competition as the tree matures, it is important to encourage root growth in young trees, he explained. "A root unable to penetrate soil is not a healthy thing. I think that's a very important thing that we've not really recognized," he added. "Sometimes we plant pear trees and they sit there. Sometimes they die. Other times they sit around and maybe grow next year. I'm convinced that that's a root problem. Even in well-prepared soil, I've seen successes and failure."

He said what he saw over and over in South Africa underlined the importance of planting trees in warm, moist soil and not watering them too early in the season. Smith said there is no reason why berms would not work in Washington. "It's just that people would think they were the most stupid thing they'd ever seen. It's an idea that will be tried. We need to see if tree is an advantage. I think a slight berm might help to make sure there's fairly good drainage around the base of the tree, rather than having a little pool of water forming around the tree."

He said some BP rootstock material is being propagated in the United States, but it is not yet available commercially. He said there is no reason why Washington growers could not experiment with Strydom's system using Old Home by Farmingdale rootstocks. Using that system, South African growers are seeing yields as high as 37 bins per acre in the fifth leaf, and 70 to 80 bins per acre within 10 years. That compares with yields of 40 to 50 bins per acre from mature blocks in Washington, Smith said.

The trees form a wall as they mature, but Smith said they are no more difficult to manage under this system than any other. "The advantage is that on the front end you get a lot more fruit, and a lot more bearing surface per acre at maturity."

He said information is available for growers wanting to try the Strydom system. Smith plans to write a detailed article on the techniques for a future issue of *Good Fruit Grower*. He urges growers to try it out on a small scale to learn how the trees respond and how the varieties respond in the different climate. "I would say that the odds are this eventually will work for us with our own adoptions and adaptations, and our own varieties," he said.

EUROPEAN BUYERS DRIVE SOUTH AFRICAN PEAR INDUSTRY

Market acceptance, rather than individual preference, dictates what varieties South African pear growers raise. Because growers have adopted a growing system that provides early yields and quick pay back, they are able to respond quickly to changes in the market. About 70% of the country's tree fruits are exported, reports Tim Smith. Europe is its largest market. "The entire industry is driven by export," Smith said. "That's one of the key things we got, over and over again, while we were down there. It's a country with a small population, so they can't eat a whole lot of produce. They don't care what they want to grow. They don't care if they like this variety more than that variety. They care whether someone in London would buy what they grow. They find out what someone in Europe wants, and they provide it."

All the tree fruits are exported through a single organization under the "Cape" label. The company takes samples of new varieties to the public and collects feedback so nurseries, growers, and marketers can work together toward fulfilling the anticipated demand in years to come. It is not a case of the grower planting trees hoping to find a market for the fruit when the trees come into production, Smith said.

South Africa's major pear variety is Packham's Triumph, which is not grown widely in the Pacific Northwest because of its bumpy appearance, but which is a much smoother piece of fruit in South African conditions. Bartlett is the second major variety, followed by a whole list of minor varieties, including Bosc, Forelle, Comice, and Beurre Hardy.

A new variety that growers are excited about is Rosemarie, a blush Bartlett-type pear that was developed in that country. It matures in the Bartlett season and has a yellow background with a red blush. Smith said it has a pleasant Bartlett flavor. "I was impressed with this variety," he said. "If it has one deficiency, it would be size, but all of the fruit is being produced on young trees, and as the trees are getting older, the fruit is getting bigger."

He also noted some interest in red d'Anjou, although they are not accustomed to growing d'Anjous, which is a difficult variety to raise. The reason d'Anjou is such a big variety in Washington is because of its winter hardiness. This is not a concern in South Africa, where it is barely cold enough to grow pears.

In terms of apples, growers are moving away from their number-one variety Granny Smith. "They're having problems selling Granny Smith," Smith reported. "Everyone's looking for a tart apple with more promise." Pink Lady, an Australian apple that has a somewhat tart flavor and matures after Granny Smith, may be the answer. Smith said it grows well in South Africa's long, hot growing season. "We saw hundreds of thousands of Pink Lady trees," he said.

In fact, it seems almost too hot to grow apples in south Africa, Smith said. Apple and pear production is concentrated in the south, while citrus and tropical fruits are grown in the warmer areas further north.

South African orchardists grow good Galas, but struggle to grow Red Delicious, he said. Half the apples are juiced because of sunburn. Smith said a field sorting eliminates about a quarter of the crop, and another quarter is sorted out in the packing house. However, the industry has established a good market for processed fruit. "They have the most excellent juice I have ever run into," he said, explaining that apple juice is blended with the juice of various tropical fruits that grow in the country. "They make up some of the most delightful blends and work really hard at marketing them."

SOUTH AFRICA IS COMPETITIVE IN WORLD MARKET

Tree Fruit growers in South Africa are optimistic about the future and expect their industry to grow by 5% a year. After being shut out of major markets for several years because of its government's apartheid stance, the South African fruit industry is back in the worldwide market and looking extremely competitive. "They expect to be able to expand over the next decade because they think they can do better than other people can and outcompete people in the market," said Tim Smith.

The South African apple industry is particularly responsive to the market, in terms of providing the quality and varieties that people want, he noted. Fruit is exported through a single organization called Unifruco Ltd., and sold under the "Cape" label. The fruit is monitored all the way from the orchard to the market. If problems develop en route, the grower is traced and asked to take corrective measures. "They have a complete loop built into their system," Smith explained.

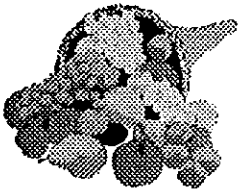
Growers can suffer financial penalties if fruit develops problems, or receive bonuses for producing exceptionally good fruit. Smith sees the strict quality control program as one of South Africa's competitive strengths, along with its unified marketing program. Under the single-desk system, shippers are not cutting each others' throats, he said. "The money comes back to one desk. They're not competing with each other, so much as with Chile and New Zealand. They have this single focus. They realize their neighbor needs to be supported because they are in this boat, and if it sinks, they all go down."

South Africa is not a big apple producer on the global scale. It produces about 1.4% of the world supply, about a tenth of North American production. One of its great advantages in terms of exporting is that it is in the Southern Hemisphere, whereas 75% of the world's apples are grown in the Northern Hemisphere. This gives it the opportunity to export fruit to the Northern Hemisphere during the off season. Its main competitors are New Zealand and Chile, which are not extremely large producers either.

Smith said production costs in South Africa are probably about the same as in the United States. Cheap labor costs are offset by high taxes. "The only thing that's probably keeping them competitive is the price of their labor," he said. Unemployment runs as high as 60% among the poorer people, which means growers have a large labor pool from which to draw. However, they tend not to be very motivated workers, perhaps because of government-subsidized services that are available, or perhaps because they are paid as little as \$4.00 to \$5.00 a day. He said there is peer pressure among workers not to put in any extra effort.

In contrast, he noted, Washington has a very hard-working, highly skilled labor force. "Our labor force is the best in the world, bar none," he said, "And we need to appreciate that. The productivity of our labor is far higher than the productivity of the labor elsewhere."

by Geraldine Warner - Wenatchee, Washington Editor



FRUIT TO SUPPLY A FAMILY

"The question is often asked, 'What shall I plant in order to obtain a full supply of fresh fruit for a family the year round?' Strawberries...four or five hundred plants. Two dozen bushes of each of the four best sorts of currants, the same number of raspberries. One dozen cherry trees will be enough. Two or three dozen bushes of the blackberry, half a dozen apricot trees, a dozen or two of plums, two dozen of summer and autumn pears, and as many more of the winter varieties, the same number of summer and autumn apples, and from fifty to one hundred trees of winter apples. A dozen or more of peach trees and the same number of well managed grape-vines."

John Thomas, *The American Fruit Culturist*, 1875.

ACCLIMATE FRUIT TREES TO AVOID WINTER DAMAGE

by Paul J. Tvergyak as printed in Fruit Grower

Winter injury is one of those topics that I tend not to discuss before it happens, in hopes that by some odd stroke of luck, it won't occur. but it is a real part of fruit production in most regions. The more we understand about winter injury, the better we can respond when it occurs. Fruit trees go through three stages of cold acclimation during the growing season:

1. Terminal shoots stop growing and set buds. This usually occurs near the end of July or first part of August. The timing is partly controlled by light. Lack of light is probably the reason we don't see a true cold acclimation process in tree roots.

2. Trees reach vegetative maturity. In this stage you can't make trees regrow without first satisfying the chilling requirement for the particular species and variety you're dealing with. Typically we reach second stage during the first half of September. Growers can and have delayed these first two stages.

By essentially keeping the trees vegetatively active and growing later into the season, the risk of winter damage is higher because of the amount of cold acclimation you pick up in stage three. In each of the first two stages, trees pick up about 10°F in cold acclimation. If the temperature remains seasonal then you're probably OK. The further you delay the 20°F of cold acclimation in the first two stages, the more likely you are to run into colder weather or worse, unseasonably early cold snaps.

3. Increased cold acclimation rate. Temperatures lower than 32°F increase the cold acclimation rate and lower the level at which injury can occur to about -40°F for apples. If temperatures drop below the acclimation level during any of the stages there will be injury. Once the chilling requirement is met, rest can be broken and the deacclimation process begins as temperatures increase. For apples, maximum rest occurs in mid-November, but deacclimation proceeds slowly because of cold temperatures. When it gets near Christmas or the first of the year typical hardiness levels are: apples, -20°F to -25°F; pears, -10°F to -25°F; cherries, -10°F to -15°F; and peaches, -5°F to -10°F.

Any winter injury depends upon a number of factors. If there's an early cold snap, before mid-November — say below 10°F — and you've delayed stages one and two, then there will be some damage. If stages one and two have proceeded at a more normal timing, tree injury will be minimal or nonexistent. Cool temperatures during December to -15°F or even -20°F shouldn't affect apples or most pears.

At these levels we will see injury in peaches, apricots, and cherries — but probably not at devastating levels. The most dangerous period usually is sometime after mid-January. All tree fruit species have long passed rest requirements and are well into the deacclimation process. At this time, it's not unusual to get a period of slight warming, which can increase the rate of deacclimation. It's possible for stone fruit buds and trees to be only safe to -5°F. apple and pear buds in the same situation could be safe to -15°F.

In any of these situations, dry soil and/or no snow cover compounds the problem with root injury. There are only a limited number of options for growers. Not delaying stages one and two, mulching, and good soil moisture are good preventative measures.

SPRING ORCHARD REPORT by Dwight Bradley, Alaska Pioneer Fruit Growers President and Editor

We sustained fairly bad winter damage to our 50-odd apple trees in Peters Creek. This came as a surprise and a letdown, because last fall and winter were pretty mild. The first serious frost didn't come until the first few days of October, giving everything a few extra weeks to ripen fruit, and to harden off. Moreover, when the first snows came, the ground hadn't yet frozen, and the ground never did freeze very deeply. Our coldest winter temperatures were only around -25°F, certainly mild by Alaskan standards. Despite all that, we lost 19 trees that were killed to the graft, another 8 were killed back to just above the graft and a handful of others that showed mild dieback.

There appears to have been two main causes: certain varieties absolutely refused to shed their leaves, even after the very late fall, and some of the trees lost major scaffold branches when the first snows came. Both usual circumstances. But the main culprit appears to have been sunscald. The damaged or killed trees have loose, discolored bark in blister-like patches. During early March there was a welcome spell of above-freezing weather that lasted maybe a week, followed by more sub-zero weather, then breakup, which began March 29. One of the dead trees (a Parkland) was alive and well in February, when I took a foot of scionwood of the central leader. Many of the trees showed early signs of life in the spring. They started to leaf out in mid May, then stalled, then died. Upon replanting, I found that the root systems of every one of the killed trees were in beautiful condition.

The end result is that I'm quite a bit less optimistic than I had been about growing in Alaska — but not about to give up.

(Ed Note: The original article has been edited due to space restrictions. Just want you to realize how easy we have it.)

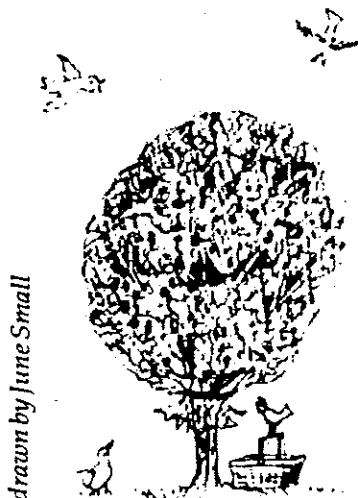
THE INCOMPLEAT MULBERRY GROWER

by Jill Bennett

as published in Fruit News, Spring 1995, The Magazine of The Friends of Brogdale

Some friends gave us a mulberry tree as a wedding present, which we took as a great compliment when I read it up in Jane Grigson's *Fruit Book*. She advocates the mulberry for "staying couples" as it is supposedly slow growing. By its third summer, the tree produced a sprinkling of berries, but long before we thought of picking them, the blackbirds had enjoyed the lot. So last year, when we saw flowers, and then fruit developing, we barely dared to whisper, that we might have some mulberries, in case the birds heard us. We soon learnt the necessity of protecting the fruit with some kind of net, which also had the advantage of catching falling fruit.

Jane Grigson suggests wearing dark purple clothes for mulberry picking. She did not exaggerate. Falling purple, I found black a good substitute. In my first picking session, I regretted not wearing gloves, as it took two days to remove the stains. (Mulberries are as effective as sloes in dyeing). The gloves are even more necessary when picking-over the fruit and attempting to remove the plug. It is not as amenable to being removed as those of raspberries or blackberries. In the end I only removed the plugs which came easily, and left the rest. It is all good roughage!



drawn by June Small

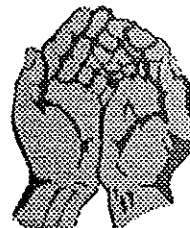
Fruit News

I also discovered the advisability of spreading a table cloth or old sheet underneath the tree to catch the fruit which falls. Mulberries are not improved by having to wash off dust, etc. After my last picking session there were more berries still to ripen, so I sewed the tree into its haimet again. But during ten days or so, the fruits so near to ripeness apparently dried up, and others failed to develop. We were puzzled by this, having watered the tree frequently throughout the summer - so if anyone has an explanation, we would love to hear it.

Nevertheless we harvested about 5 pounds of mulberries. The squidgy ones were used with windfall apples for jam. We ate some fresh, and froze the remainder. Mulberries have a unique taste, a mixture between raspberries and blackberries, but yet different from tayberries or loganberries. And they have a distinct advantage in being thorn-free.

Jill Bennett lives in St Albans, Hertfordshire

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LOTION PROTECTS SKIN FROM CHEMICALS

A skin lotion that protects the skin from noxious substances is available. Skin Coat is a blend of organic substances that combine with the proteins on the surface of the skin to form a protective barrier that lasts from four to 24 hours and breaks down naturally. It can provide protection against fertilizer, pesticides, and other agricultural chemicals, according to a press release from Skin Coat North America.

Regular soaps and hand cleaners can be used for cleanup after work, because the product prevents dirt, grease, and chemicals from entering skin's pores.

For information, contact Skin Coat North America, P.O. Box 533, Verdugo City, CA 91046; telephone (800) 600-1881

CALCIUM SPRAYS: BETTER FRUIT, HEALTHIER TREES

Dennis Senft, Agriculture Research Service

Just about all commercial fruit producers in the Pacific Northwest spray their apple and pear trees with various formulations of calcium chloride or calcium nitrate. This very cost-effective technique, developed by Agricultural Research Service scientists at Wenatchee, Washington, yields fruit that contains at least 10% more calcium than unsprayed fruit.

Begun about 18 years ago by plant physiologists J. Thomas Raese and Edward A. Stahly, both now retired, the research is now directed by ARS horticulturist Stephen R. Drake.

"On 'Delicious' and 'Golden Delicious' apples, calcium sprays reduced the incidence of bitter pit and may also diminish scald and internal breakdown—three disorders that render some apples unmarketable," says Drake. "And in most instances, the firmness, total acidity and juiciness ratings of apples were improved by timely applications of calcium during the growing season."

On 'Anjou' pear trees, the sprays increased yield by 13% over a 6-year period and reduced the incidence of cork spot. Cork spot is not dangerous to human health, but it reduces the fruit's flavor intensity, keeping quality, and market value. Bitter pit and cork spot impart a bitter flavor to affected fruit. On 'Bartlett' pears, calcium sprays reduced black end or hard end abnormalities by more than 50%. The disorders are caused by low fruit calcium resulting from excessively warm or cold temperatures, irrigation, dormant pruning, or nitrogen fertilizer.

More careful application of fertilizer and water and summer pruning may reduce damage somewhat, but the stress caused by temperature extremes in summer and winter cannot be controlled by growers.

Grower Gary Vaughn of East Wenatchee, Washington says the sprays have cut his cullage rate considerably, and he gets much better fruit coming out of storage, ready for market.

Fruit disorders resulting in lowered quality cost the industry millions of dollars in losses annually. The Wenatchee scientists say that several different formulations of calcium chloride and calcium nitrate are available to orchardists, with label recommendations specific to various fruit crops.

Before this research, pear growers had been reluctant to spray calcium for fear that the chemical would cause blemishes on fruit and leaves, since pears are more sensitive than apples. Both late-spring and late-summer applications are necessary, but summer applications should not be made when the temperature is above 80°F.

On apples, calcium chloride is applied at three week intervals, June through August, at the rate of 3 pounds per 100 gallons of water. On pears, the rate is 1½ pounds per 100 gallons. Larger trees require more spray per acre for adequate coverage.

This treatment also provides some frost protection to trees. During the winter of 1990-91, temperatures in orchards near the laboratory dropped as low as -22°F in late December. Trees that had been sprayed the previous summer produced good-quality fruit and survived, but some untreated trees were stunted and produced less fruit with more calcium-related disorders.

The above article is reprinted from *Agricultural Research*, April 1995

WILL THIS SOLVE THE MOLE PROBLEM HERE? From *Letters to the Editor of Fruit News* Summer 1995

About 30 years ago I was seeding a lawn when the moles came tunnelling in. I had read somewhere that they cannot abide soil shaking round their tunnels; I suspect that worms do not like it either. I got a craftsman metal worker to make me a larger version of a child's windmill; the sails were about 15 in across and supported on a stout metal rod; 2 ft into the ground and 2-3 ft above. With hindsight a wooden support would have been better because the wood swells in the ground and would not rock. The sails were black and by painting a white design on them it scared away the birds too. I think Mrs Renshaw might need two windmills.

Catherine Nicoll, Old Alresford, Hants

ASIAN PEARS SLOWLY GAINING RECOGNITION

Good Fruit Grower September, 1995

Asian pears are also known as Oriental pear, water pear, sand pear, salad pear, apple pear, pear apple, Japanese pear, Chinese pear, nashi, and nihon nashi. Some of these names tend to be misleading if not unfortunate references to an excellent fruit that has only recently gained much attention from consumers outside the Asian communities.

Asian pears have an interesting history and have been cultivated for centuries by Chinese, Japanese, and Korean gardeners and farmers. Most varieties that have gained attention in this country are of Japanese origin. Some of the older varieties have a gritty texture (hence, the name sand pear), but this is absent in newer varieties.

In contrast to European pears (e.g., Bartlett), which have a soft, buttery texture when ripe, Asian pears are crisp and watery. Asian pears must ripen on the tree for optimum eating quality versus European pears that are ripened after harvest.

Apparently, the earliest appearance of Asian pears in Western countries was through the introduction of seeds into California by Chinese goldminers during the California gold rush. Since the fruit characteristics of these early introductions were markedly different than the European pear to which Westerners were accustomed, and the flesh often had a gritty texture, Asian pears were generally considered to be of inferior quality.

Consequently, they were not widely accepted by Westerners. Breeding and selection programs over the years have produced major improvements in Asian pear varieties, to the point that many can be described as having a "fragile crispness, juiciness, and delicacy of flavor." Consequently, consumers outside Asian populations are becoming aware of the virtues of this fruit.

EASE OF PRODUCTION Asian pears are not as grower friendly as some tree fruits. They require more intensive cultural practices in some respects than European pears (e.g., they will usually require heavy fruit thinning and multiple harvests, the fruit is very susceptible to abrasions and bruising, and the trees are susceptible to fireblight and pseudomonas). Trees may want to bear the second season in the orchard and must be monitored to prevent runting out.

CLIMATIC ADAPTATION Asian pears are not quite as cold hardy as d'Anjou and Bartlett but are similar to Bosc. Hardiness of the rootstock is also of concern since this varies widely from 10°F for *Pyrus calleryana*, or 0 to -10°F for *P. betulaefolia*, to -30°F for *P. communis* stocks. Winter chilling requirements tend to be about half that of European pear, or in the range of 400 to 800 hours. Bloom tends to be a bit ahead of Bartlett (thus making some varieties somewhat more spring frost susceptible), but there is usually some overlap with Bartlett. Windy sites need some protection since some varieties are quite subject to abrasion damage.

VARIETIES The list of available varieties is quite long. However, a relatively small number have become popular, e.g., Ichiban Nashi, Shinsui, Kosui, Shinseiki, Hosui, Kikusui, Yoinashi, 20th Century, Chojuro, Shinko, Niitaka, and Yali (listed in order of ripening). Hosui, Shinseiki, and 20th Century have been most common in Washington State.

ROOTSTOCKS Most varieties of Japanese origin are dwarfed by about 50% by *P. communis* rootstock (e.g., Bartlett or Winter Nelis seedlings or OHxF) and consequently, may suffer from lack of vigor and poor fruit size. *Pyrus betulaefolia* is the preferred rootstock because it produces a vigorous tree with good fruit size and is also tolerant of wet soils. Its main limitation appears to be less cold tolerance than *P. communis* stocks. Some varieties such as Yali, Tsu Li (now known as Tse Li), Seuri, Ishiiwsase, and University of California-Davis hybrids apparently grow well on *P. communis* stocks. Asian pears are not compatible directly on Quince.

POLLINATION Most (not all) varieties are partially self-fruitful, but two or more varieties should usually be used to insure good fruit set, size, and shape. heavy fruit set, however, is a mixed blessing that increases the need for hand thinning, a requirement in all cases. Some varieties are poorly cross-compatible and should not be used together (e.g., Kikusui will not pollinate 20th Century; Kosui and Shinsui should not be planted together; Seigyoku and Ishiiwase are poor pollenizers). Niitaka is pollen sterile. Seuri, Tse Li, and Yali are early bloomers and should be planted together (they are cross-compatible).

FRUIT THINNING All varieties require heavy thinning to achieve annual cropping and good fruit size and, in some cases, to avoid limb breakage. Thinning must be done early for best results, thinning to one fruit per spur with fruit spaced 4 to 6 inches apart. An 8 to 10 year old tree may carry 200 to 400 fruit.

TREE TRAINING Trees are successfully grown in a variety of forms, including vase, central leader Christmas tree, Tatura, Y-frame, and Japanese pergola (flat-topped continuous cover). Tight hedgerows are to be avoided.

HARVEST AND HANDLING There is a wide range of maturity dates among Asian pear varieties, ranging from early August to November (or later) in our area. An inadequate growing season will limit the selection of varieties in some areas of Washington State. Harvest timing is most often determined by flavor (primarily sweetness or soluble solids) and skin ground color. The higher the sugar content, the better the flavor. Fruit color of russet-type fruit turns from green to brown to orange or gold; yellow fruited types change from green to light green or yellow-green (the Chinese varieties are green types that remain green at maturity). Asian pears are subject to bruising, marking, stem punctures, finger marks, and other kinds of handling damage. Damaged skin will discolor and blacken in a few hours. Some growers consider Asian pears to be more difficult to handle than firm-ripe peaches.

INSECTS AND DISEASES Asian pears are affected by the same insects that affect apples and European pears, including codling moth, pear psylla, mites, lygus, and stink bugs. Fireblight and bacterial canker can be serious problems causing similar symptoms, but cankers apparently do not ooze with the latter disease.

SUMMARY Variety and rootstock choices are critical to success in growing good quality fruit. Fruit thinning is required for success. Insects, diseases, and climate are limiting factors to be considered, special care in harvesting and handling is needed to insure damage-free fruit.

The above article by Fenton E. Larson, and Stewart S. Higgins, Department of Horticulture and Landscape Architecture, WSU, and Dain Craver, Independent Field consultant, Royal City, WA has been edited for content of interest to the home orchardist.

ASIAN PEAR PEST CONTROL

by Robert L. Rackham Benton County-OSU Extension Service

Although Asian pears have pest problems similar to the European varieties, there are several differences that should be observed. Bacterial blight and canker is caused by *Pseudomonas syringae*, the most important disease of Asian pears. It sometimes resembles and is called false fire blight due to spring twig blight. However, there is usually a distinct demarcation between live and diseased bark. Apply Bordeaux or fixed copper sprays in February or just before bud scales loosen. Use a sticker or dormant oil for longer copper residual. Pruning in late spring, especially for young trees, will expose wounds to less injury from the cold, wet weather organism.

Codling moth is reported to be the number one insect pest of these pears where they are grown. It is a constant problem the whole season and requires 3 to 4 well-timed sprays to prevent major damage and heavy losses. Old varieties with more stone cells provided more resistance. Timing sprays by degree day model: The first major moth trapping of 3 or 4 automatically sets 200 hours (biofix). The first cover spray should be applied at 250 additional degrees from the chart found in Extension Bulletin 1072.

Pear psylla can also be a major pest on Asian pears, although some varieties are more attractive than others to this insect. 20TH CENTURY is quite susceptible. JAPANESE GOLDEN RUSSET, YA LI, and TSU LI are least susceptible. When pear psylla occur in large numbers, the immature stages of the insect inject a toxin into the tree. Affected trees show poor vigor and low productivity. As these immature pests feed, they secrete a sticky substance called honeydew which marks the fruit and lowers quality.

Spider mites are attracted to some varieties of Asian pears more than others. Mites feeding on pear leaves indirectly affect fruit set, pre-harvest fruit drop, and fruit size. they also affect fruit directly by feeding on the surface of the fruit, which causes russeting and may downgrade the product. The russeted varieties of Asian pears may be more tolerant to this type of damage. Asian pears have larger leaves than the European varieties and may be able to tolerate higher numbers of mites. TSU LI, YA LI, and CHOJURO are more susceptible to spider mites. SHINSEIKI and 20TH CENTURY were moderately affected. other varieties had few mites in the 1986 season. Pear leaf mites are not attracted to Asian pears.

Birds may prove to be one of the most serious pests encountered by the Asian pear grower. Since these fruits ripen on the tree they are very attractive to birds and are susceptible to attack. Large numbers of birds migrate through Oregon each fall and could present a problem, especially for the late-maturing varieties. Growers in Japan cover the entire orchard with netting to prevent bird damage.

Ants could also be a problem, sugars reach high levels in fruit on the tree and are attractive to these insects. Varieties that have an open type calyx would be especially susceptible.

Leaf burn can happen when certain spray materials and formulations are used incautiously on the sensitive Asian pear foliage and fruit. Leaf scorching has been noticed with the use of Funginex and malathion emulsions. Omite has also been reported to have a devastating effect by stripping leaves off the trees. Sprays containing calcium salts should be applied when buds are fully dormant. Cyprex has burned off bloom and young leaves of HOSUI and KIKUSUI.

As published in Pome News Volume XIX, No 2 Spring, 1994

ReportING - Semantics

by George Ing

Oh the magic of words in this English language we use! I was recently reading the building materials ads in a local newspaper. One person was advertising an extra pre-built floor "Joyce." Certainly an insult to all Joyces anywhere and not very accurate if the intent is to be selling an extra joist, which is used to support floors of a building.

Another ad was selling some "Lamb" Beams. Those poor little sheep, being mistaken for the abbreviation for "laminated." When several pieces of lumber have been glued together, a laminated beam is the result. These are often sold as "lam" beams.

And there was an ad for leftover special material to cover under the "Eves." Sort of tough on any gal named Eve to be placed way up there under the eaves of any building.

Winches or wenchers?

A common advertising mistake is when people are selling four-wheel drive units or crawler tractors. Those will be listed as "complete with wench." Even the most powerful wench, meaning a female who performs various mundane physical jobs, could not take the place of nor have the power of the gear-driven winch on a crawler tractor.

We also see sheathing advertised as "sheeting" or small dimensional lumber called "beams" or "timbers." Although some of the above are spelling errors when phonetics are used quite literally, our language is such that it is amazing that we do not have more gaffs. Many times a given word will mean several things. The word "hose" is an example. "Union" is another.

3-pint sprayer

I remember going through an updated insurance list on which someone who meant well had abbreviated the description of our 3 point sprayer to "3 pt." In the next go-round, that 3 pt became "3 pint." Thus the revised list noted we were insuring a 3 pint Rears speed sprayer for \$3,000.00. And no one questioned how something could hold only 3 pints and be worth \$3,000.00

Adopted usage can also affect meanings. Do you know the difference between "cement" and "concrete?" There are many concrete floors and walls, but none made of cement, which is one of the components of cement, the binder or sort of glue. Nonetheless, we say we "fell on the cement floor."

When using my crude Spanish, I fuss because "Mismo" and "equal" can be used interchangeably to mean "the same." Spanish, however, should be an easy language because the tense is supposed to be incorporated into the word. I usually fail and thus am prone to say "va" (you go) when I mean that I am going, which should be "voy."

High lead

I recall many years ago when my father worked on a "high lead" logging "show." We constantly heard terms such as hallback, bullblock, chaser, choker, rigging slinger, donkey, whistle punk, mainline, bullbuck.

I once bought, with a farm where the same people had been farming for almost 80 years, a collection of numerous bits and pieces of metal, leather, and wood. Gathered in a large pile unattached to machine, animal, or building, they meant nothing to me. However, to my father, who had grown up with horse farming, they each had meaning and remembrance. Incidentally my pop achieved a notoriety of sorts on the Canadian prairie in central Alberta in the 1920s for being able to "break" horses that other people had given up on as too wild.

Therefore, I learned such things as spuds, peaveys, Stilsons, blinders, rings, double trees, harrow bars, froes, sheaves, hay forks, colters, mandrels, post drills, steelyards, drill shoes, cradles, malls, pedal grinders, hay knives, drill chains, forges, hog rings, monkey wrench, block and tackle, swage block, shaker head, grease cup, powder spoon, and windlass.

Fruit growing language

We perceive fruit growing as a business without much technical language. However, the next time you are visiting with someone unfamiliar with fruit growing, check how quickly you abort the conversation when you start using, without much further explanation, such words as scion, M-26, scoring, drip tube, hop clip, air curtain, Granny Smith, loppers, Elegant Lady, bags, Ethrel, Giessen, traps, Promalin, tree wraps, central leader, chlorinated hydrocarbons, graft, block Tatura, Lapins, shuttle, Betulaefolia, trickle, Red Clapp, pheromone, Red Jonathan, jets, apical dominance.

And when we get to the packing house where we hear of molecular sieves, CO, low oxygen, pulldown, botrytis, and many more terms that pertain to fruit storage and handling. I once had a farming neighbor, who, when asked what spray he was using, noted that it was "parathane." In those days we used both Parathion and Perthane, but he insisted he was

using parathane which covered things pretty well. I have been on more than one orchard tour where the term "whorl" was not used correctly in describing layers of limbs. Sometimes they are called "sworls."

Gotta get out of here and into the orchard where I am going to change my water, put in toothpicks, check my pheromone traps, remove suckers, maybe backpack a little gramoxone if it is not windy, and, after I clean my filter, fix a couple of micro jets I ran over yesterday.

Oh yes, our town is soon to get another semaphore.

George Ing of White Salmon, Washington is manager of Washington Tree Fruit Research Commission, and grower. His views expressed in "ReportING" are those of the author and are not necessarily those of Good Fruit Grower. "ReportING" is run unedited. This viewpoint was published in the July 1995 issue.

summaries from abroad as reported in Good Fruit Grower, September 1995:

DELBLUSH: OUTSTANDING NEW APPLE Delblush, an apple variety of Golden Delicious type introduced by Delbard Nursery, France, has been cited for its remarkable eating quality and good storability. The fruit is attractive, deep yellow with some red-orange blush. Harvest is 10 to 15 days after golden delicious.

The tree is of average vigor, with a fruiting habit similar to Golden Delicious. It is precocious and productive. this variety is undergoing a strictly-controlled development within a marketing plan. *Fruits & Legumes #130, May 1995*

A NEW ROOTSTOCK FOR PEACH Cadaman Avimag® is a rootstock obtained by interspecific hybridization (*P. persica* x *P. davidiana*). Studies in 12 orchards with peach since 1981 in France compared Dadaman Avimag with almond/peach hybrids GF.677 and peach rootstock GF.305.

Trees on Dadaman Avimag have similar vigor and production to GF.677 with sometimes a better fruit size. Cadaman Avimag is more resistant to anaerobic soil conditions than GF.677, tolerant of lime-induced chlorosis, and performs well in replant situations after peach. *M. Edin & A. Garcia L'Arboriculture Fruitiere #475, September 1994*

WINDBREAKS WITH MIXED SPECIES Windbreaks or hedgerows with the following tree species were studied as refuges for beneficial insects: *Corylus avellana* (hazelnut), *Coronilla emerus*, *Eleagnus angustifolia* (Russian olive), *Eliagnus umbellata*, *Ligustrum vulgare*, *Ligustrum sinense*, *Ligustrum japonicum*, peach.

Presence of numbers of 11 groups of beneficial and 5 groups of phycophagous insects was surveyed. Strong predators of aphids, mites, and pear psylla were found. this study supports the original role of such hedgerows as refuges for beneficials. *J. Gauthier L'Arboriculture Fruitiere #475, September 1994*

BITS AND PIECES

BAGGING FRUIT: Mike Shannon, treasurer of Peninsula Fruit Club asks: does anyone in the Seattle area use bags to protect their fruit from apple maggot? He would be interested in talking to you. His phone number is (360) 373-9489, or write to: 1518 Vue Ct, Bremerton, WA 98310. If anyone has tried it, would you share your results with the membership? Send a report to the editor.

A MESSAGE FROM THE EDITOR: ☺ Folks, I'm running short of articles. DAVE BATTEY, we haven't heard from you for awhile, how about one? WALT LYON, will you have time after the Fall Fruit Show to get that history paper written? FELLOW MEMBERS, how about some reports on what your orchard/garden/trees did this year. What worked for you, what didn't, what you plan to do different next year. Do you have a recipe to share? ☺ To those of you who regularly supply me with information, many thanks, and keep it coming in.

NEW FRUIT, NEW FLAVORS, NEW OPPORTUNITIES

by Lillianne Chase The Grower, July 1995

Two California growers are taking a chance on an entirely new fruit that promises a combination of flavors unavailable in other commodities. Dennis Surabian, Surabian Packing Inc., Reedly, and Mike Harvey, Harvey Farms, Delano, are experimenting with the Pluot interspecific, a new fruit of plum and apricot parentage.

The Pluot is one of three interspecifics - a plant derived from two different fruits - developed by California plant breeder Floyd Zaiger, Zaiger Genetics, Modesto. The plumcot is a cross between an apricot and a plum. The trademarked Pluot actually is the result of having crossed a plumcot with a plum, so it has more plum characteristics than apricot. The trademarked Aprium also is a cross of the apricot and plum and resembles an apricot.

The quest for more flavorful varieties led to these new fruits, which feature unique flavors similar to a mixture of fruit juices. Surabian, a nectarine and peach grower, harvested his first boxes of Flavorich Pluots from a 10-acre planting last year. The Flavorich variety has dark purple to black skin, orange flesh and is slightly larger than a plum. In Fresno, California, the variety ripens the last week in August to the first week in September. Surabian said the sugars in the Pluots are 18 to 21% compared with 11 to 12% of a standard plum. The fruit is also firm enough to be handled commercially and can be held in storage from September to January, longer than standard plums.

Harvey is testing another variety, the Dapple Dandy Pluot, and expects his first crop this year. The variety is named for its unusual appearance, a speckled green over red skin and red flesh. It is the size of a large plum and harvests late July to early August. This variety, too, has the sweetness and flavor consumers want and the firmness growers need, he said. "It has a flavor of its own, unique and mostly plum," Harvey said.

About 50-100 acres of Pluots are planted, less than 50 acres of plumcots and no commercial plantings of aprium, according to Dave Wilson Nursery, Hickman, California.

A BRIGHT FUTURE Although they are braving the frontier, both growers are optimistic that a market exists for the Pluot as a specialty fruit in domestic and export markets. Last year Surabian shipped some to markets in Taiwan, Hawaii and Northern California. "They were well accepted and we got top money for them," he said. "The Pluot will catch on the future is bright." The fruit also was in demand in Brazil when it was first marketed there. However, Surabian said because of its plum-like appearance, the Pluot will need some promotion at the retail level to distinguish it from the plum so consumers realize it is a new fruit with a sweeter, unique flavor.

PRODUCTION CHALLENGES Mastering the cultural practices of production may lengthen the path to success, however. The Pluot requires similar cultural practices as the standard plum, but pollination poses the biggest challenge. Data are still being gathered on the best pollinizers to use with the Pluot. Surabian's plantings, now in their third year, did not do well this year-apparently because of poor pollination. "But because of the weather, this has been a bad year for all fruits," he said.

Timing the harvest for optimal flavor also will take some experience. Because the Pluot tends to hang on the tree longer than the standard plum, growers are tempted to pick too soon. Although the fruit sugars and colors up early, the flavor does not fully develop unless the fruit are left on the tree longer. "There is probably a broad window during which they can be considered commercially mature, with sugar, color and give," said Robert Woolley, owner of Dave Wilson Nursery. "But with more time on the tree they develop the best flavor."

Besides the Flavorich and Dapple Dandy, other Pluot varieties harvest in time slots from June to August; the Flavor King, a red fruit with yellow flesh, harvests early to mid August; the Flavor Queen, a light green fruit, harvests late July; and the Flavor Supreme, also a speckled variety, harvests mid June.

Three members of WCFS, in three different areas, have Pluots: T.K. Panni, Bellevue, Paul Hoyme, South Snohomish County, and Gene Lewis, Innis Arden area of King County (north of Seattle, near the Sound). They report these results:

	Pluot Variety	Possible Pollinators	Bloom	# of Fruit	
				Pollinated	Matured
Bellevue	Flavor Queen	Hollywood	yes	0	0
S Sno Co	Flavor Queen	Hollywood, Beauty, Superior	yes	quite a few	2
Innis Arden	Flavor King, Supreme	Hollywood	yes	0	0

T.K. took one tree out last December, the other this past spring "too vigorous, no fruit". Gene has grafted Beauty and Superior varieties of plum and will give it this next season to produce. He states, "At this time pluots or plumcots would not be recommend for Seattle." Paul says he will leave his tree in for another season, as this year was unusual.

GRAPE JUICE PRODUCT KEEPS BIRDS AT BAY

Good Fruit Grower - September 1995



The U.S. Environmental Protection Agency is expected to approve the use of a component of Concord grape juice to keep birds off food crops, including cherries. Although it is classified by the U.S. Food and Drug Administration as a Generally Recognized As Safe (GRASS) material, it cannot be used for crop protection without EPA approval.

Dr. Leonard Askham, retired vertebrate pest specialist at Washington State University, has set up a company to make and market a new product called Bird Shield, which is made from a grape juice component called methyl anthranilate. The compound has an orange flower odor and a slightly bitter taste, and has been used for some years as a food additive.

Askham said that during the 1950's, a New York scientist Morely Kare found that birds (particularly chickens) did not like Concord grapes. He discovered the part of the grapes that the birds did not like was dimethyl anthranilate. He patented his idea in 1961, but it did not go any further because another effective product Methiocarb was being used. In the late 1980's, however, Methiocarb was removed from the market.

Meanwhile, bird populations were rising, Askham recounts. By 1988, bird damage was consistently listed among the top five problems in agriculture. Growers reported losing between 20 and 25% of their crop each year.

Kare's ideas were revived by the U.S. Department of Agriculture's Animal and Plant Protection Service. After years of research, a product called Re-Jex-It, containing dimethyl anthranilate, has been approved by the EPA to keep birds off golf courses and garbage dumps. However, it has not been successful on agricultural crops. In its present form, it will not remain suspended in water for any length of time, it causes serious plant damage, and it leaves taste residues on the crop at harvest.

Askham began working on the problem at Washington State University (WSU) in 1986. Dimethyl anthranilate, along with a host of other materials, was tested on caged birds. Methyl anthranilate was found to be as effective as dimethyl anthranilate, but less expensive to produce. Eventually, he developed a formulation that is easy to mix in water for air-blast applications, and is effective longer, with less risk of phytotoxicity.

The formulation, which is called Bird Shield, will be pre-sold this fall for next season. It has been tested on commercial cherry orchards by Askham and other WSU researchers. In the trials, entire orchards were sprayed with Bird Shield, and the fruit was harvested, weighed, and compared with untreated blocks. Cherry yields in the treated orchards averaged 295 pounds per tree, compared with only 125 pounds per tree in the untreated orchards that were attacked by birds.

In addition Washington State Department of Agriculture inspectors found far fewer cracked cherries in the treated fruit. Askham said the effect on cracking had been noticed for several years, although the reason is not yet known. In taste tests conducted at WSU, panelists found no significant differences between treated and untreated cherries.

Tests on apples have been less successful, which Askham says is because of the different way birds eat apples. When eating an apple, a bird will peck a hole in the apple with its beak closed and then eat the flesh from the inside with its beak open, so it would not taste Bird Shield on the skin. In comparison, when a bird eats a cherry, it opens its beak and crushes the cherry.

WILL THIS SOLVE THE MOLE PROBLEM HERE? From Letters to the Editor of Fruit News, Summer 1995

In the Spring 1995 issue of *Fruit News*, Maggie Renshaw asks for help to deter her moles. She should try growing some plants of caper spurge (*Euphorbia lathyris*), which is claimed to secrete a substance from its roots that the moles dislike. It is a handsome, but not beautiful plant and self seeds. It is not invasive. I had a rural garden in farming country for 22 years and always had a few caper spurge plants. Moles abounded in the neighboring fields, but never tunneled in my garden.

The problem in Muswell Hill is not moles but grey squirrels. I wonder whether readers can help with suggestions for squirrel deterrents.

Robin Benians, North London

LEAF ANALYSIS FOR NUTRIENT MANAGEMENT

TREE FRUIT NEWSLETTER - Karen I. Hauschild, Editor
University of Massachusetts

The most economical approach to nutrient management needs in tree fruits is routine leaf and soil testing. By analyzing the leaves from your trees you can determine the nutrient status of your orchard, orchard block, or questionable trees. Periodic soil testing lets you know the relative amounts of nutrients that are AVAILABLE in the soil. (These amounts do not necessarily correlate with what's in the trees, however.) Soil testing also gives you the soil pH - which can affect the trees directly, or by making certain elements unavailable to tree roots, since each nutrient element has its own optimal pH range.

Leaves for analysis should be collected when trees have finished this year's growth, (Have set terminal buds). Generally, in our area, mid-July to mid-August is the appropriate time interval. For each sample, collect a minimum of 50 leaves of the same variety - choose healthy (non-damaged) leaves halfway down this year's shoot growth. If you are sampling by block, be sure to take leaves from at least 10 trees scattered throughout the block. (I have enclosed sampling information as well as a copy of the form that was developed to accompany the testing bags.) Wash leaves, towel dry, air dry. Mail in paper bags to the tissue testing lab. Results are usually available within 1-2 weeks. Send to:

Soil and Tissue Testing Lab
West Experiment Station
University of Massachusetts
Amherst, MA 01003-2082

Cost \$15.00/leaf analysis
\$7.00/soil test (with pH)

Applying nutrients on an as-needed basis not only saves money, but it also saves time and prevents adverse effects on the environment (especially groundwater)! Remember - it's very helpful to take soil and tissue samples from the same areas.

OTHER BITS OF INFORMATION NOTED:

There is no better way to determine fruit maturity than using iodine solution for starch testing.

Where the Money Goes (from *The Packer*, July 10, 1995) Of the federal dollars distributed for the marketing of fresh fruits and vegetables the past two years, \$17,950,000.00 total in 1994, \$3,420,000.00 went to Washington Apple Commission; in 1995 of the \$16,685,000.00 total, Washington Apple Commission received \$3,480,000.00.

Ed's. Note: The above article was submitted by Dick Tilbury with these notes: "Possible follow up to the soil testing article in the summer Bee Line p.s. Gary Moulton, WSU Mt Vernon, is doing a lot of testing for nutrient management in Jonagold apples." and "We met Karen in August 1994 at the NAFEX meeting (U Mass, Amherst, MA) At that time she was the only remaining Extension specialist in tree fruit for the whole state of Maine. Budget cuts really took a toll."



APPLE TURKEY SAUTÉ

1/2 cup unsifted all-purpose flour	3 apples, peeled, cored, sliced (Granny Smith or Golden Delicious)
1/2 tsp salt	1/2 cup sliced mushrooms
1/4 tsp ground black pepper	1/2 cup sliced onion
1 pound turkey breast, 1/4" slices	2 capers
2 Tbsp butter or margarine	1 cup apple juice
2 Tbsp olive oil	2 Tbsp parsley, chopped, fresh

In a small bowl, combine flour, salt and pepper; dredge turkey slices in flour mixture to lightly coat. In a large skillet, heat butter and olive oil over medium heat; add dredged turkey slices and cook, turning, until browned on both sides and cooked through. Remove turkey from skillet and keep warm.

Add apples, mushrooms, onion and capers to skillet; sauté just until apples are tender. Stir in juice to deglaze skillet and simmer 5 minutes. Arrange turkey on platter, cover with apple and vegetable mixture. Spoon sauce from pan over all, garnish with parsley, and serve. Makes 6 servings.

With the apples harvested and turkey season around the corner, this recipe, from the Growers of Washington State Apples pamphlet which Chuck Holland submitted with the note that he thought it might be of interest. Thanks Chuck.

1995 NAFEX CONFERENCE
A BRIEF SUMMARY
by Dick Tilbury

The Annual North American Fruit Explorers (NAFEX) Conference was held at Penticton, BC on August 20 to 24, 1995. Penticton is in the beautiful Okanogan valley, bordered by lakes Okanogan and Skaha and surrounded by rolling hills of orchards and vineyards--a most appropriate setting for this meeting.

The first two days were devoted to short presentations. The speakers and subjects were listed in the summer Bee Line. The last two days were bus tours to three local orchards, a packing plant in Oliver, the Bear's fruit stand and farm in Keremeos, Lang's vineyard and tasting room, and last but not least, the big Ag Canada research station in Summerland. A few comments follow.

The Sunrise apple developed at the Summerland Station was much in evidence at roadside fruit stands. It's very tasty; keep it in mind for an early apple.

The super spindle training system for apples is the latest rage in B.C. We visited one orchard with a new planting of super spindles at 5,000 trees per acre. His stock was obtained as "sleeping eyes" from Holland. Removing unwanted limbs by hand tearing was demonstrated at one orchard; this was also witnessed last fall in France on the Apple Buff's Tour.

Many wineries are being established in this area and they all seem to have tasting rooms. It would be a delight for enologists.

Canadian agricultural research and education are suffering budget cuts just like here.

Bob Norton's slide show on "Some of My Exciting Journeys in the Fruit World" was the highlight of the conference banquet. Bob Glanzman (Mr. Kiwi) and landscape architect Kristan Johnson gave excellent presentations. You can catch them both at our Fall Fruit Show.

Frank Kirby of the B.C. Fruit Testers and a NAFEX board member was conference chairperson. He did a super job and is deserving of many thanks. WCFS member Bob Purvis of Selah, Washington was re-elected president of NAFEX. The annual Milo Gibson award went to Ed Fackler of Indiana.

On a personal note I was saddened that only 12 of the over 500 WCFS members attended this outstanding conference hosted by our Canadian neighbors. NAFEX conferences don't come this way very often--1987 in Corvallis, Oregon was the most recent one close to us. Next year the conference will be at Auburn University in Alabama; in 1997 at Columbus, Ohio.

On the way home we visited the Okanogan-Kootenay codling moth sterile insect release (SIR) rearing facility in Osoyoos, B.C. Lance Fielding, entomologist and plant manager was kind enough to give us an extensive tour. He followed this up by getting permission to mail us a loaner video of the SIR program and its history. We will get this copied for future chapter programs. More about this promising program later.

Ed. Note: Many thanks to Dick for getting this report ready for the Bee Line *two days* after his return from a three week trip to Wales for publication in the Fall newsletter. Its people like him who make my job easy.

NEWS FROM THE PUYALLUP FAIR: WCFS had a booth, designed and set up by Leonard Jessen (president of Tahoma Chapter), from September 16 to 24 in the Agriculture Building, manned by volunteers from 10:00 a.m. to 10:00 p.m. in 4 hour shifts. He displayed at least 15 varieties of apples, 4 varieties of pears, grapes, kiwi, figs, butternuts, walnuts-black and English, filberts, cantaloupe (plant), raspberries and strawberries. In addition to the fruit he had 3 potted figs, a dwarf pomegranate tree, a cheramoya tree, a Sweet 16 apple tree, a Corham pear tree in bloom, a loquat, kumquat, butternut, and grapefruit tree, and a tomato plant. It was a very attractive booth, well received by the fairgoers, who were interested in the Fall Fruit Show and in joining WCFS.

The volunteers, some who served more than once, were (in no particular order!): Orel Vallen, Alice Miller, Phil Swanberg, Doris Leavens, Henry Morgan, Milton Piatok, Mike Hughes, Al Sater, Bob and Gail Friese, Ed and Kathleen Jones, Bob Minnich, Sandra McDowell, Miriam and George Hill, Larry Trudeau, Bob Hartman, Bill Horn, Chester Hart, Wayne and Bonnie Bucy, John and Vicki Reardon, Grant and Sherry Lawrence, Paul and Evelyn Hoyme, and Cy Happy, a writer who is not a member of WCFS, but hopefully will become one. And of course, Leonard, who says THANKS to all the volunteers and those of you who didn't volunteer missed a good time!!

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The Bee Line is the newsletter of the Western Cascade Fruit Society.

It is published quarterly; January, April, July and October and is included with membership.

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NEXT NEWSLETTER EARLY JANUARY