OKLAHOMA PECAN GROWERS ASSOCIATION

Volume XLV, No. 2 *Michael Smith, Editor* *April, May, June 2004*

In This Issue

President's Corner

I hope everyone had a very joyful holiday season and that your 2003 pecan season was successful. In talking with growers around that state, I found that many experienced a very poor and disappointing season, while others had a very successful season. Pecan production for 2003 seemed to be much better in northern and southern Oklahoma while the production in central Oklahoma was very disappointing.

As your pecan season is coming to an end it is a great opportunity to look back on the 2003 season to determine factors that might have influenced your final crop. If conditions occurred during the growing or harvest season that have you puzzled, please let me or one of the OPGA board of directors know of your concern. The annual state pecan show is a great forum to discuss your concerns and get answers to your questions.

This year the 7th annual pecan show will be held on June 11-13 in Idabel, Oklahoma. Growers' feedback will influence the topics of the seminars during the show, so your feedback is important as we want the state pecan show to be very informative. We will also be touring Basil Savage's pecan operation south of Idabel. More details will follow later and we hope you can make plans to attend.

Many of you will remember discussing a pecan survey of Oklahoma Pecan Production at last year's state pecan show. After the survey, the OPGA contacted pecan growers across the state and received over 50 new members to the OPGA as a result. I would like to welcome our new members and reiterate that this is your organization and your feedback is important.

An exciting time of year is coming up with spring approaching and another potential pecan crop. Good luck and look forward to seeing everybody in Idabel in June.

Sincerely,

Bill Ihle
OPGA President

Relationship of Cluster Size with Nut Quality and Return Bloom

Charles Rohla and Michael Smith, Dept. of Hort. and L.A.

A study was conducted to determine the relationship of cluster size with selected nut quality parameters and return bloom on 15-year-old 'Pawnee' trees growing in a Teller sandy loam near Charlie, Texas. Trees were irrigated and received ample nitrogen annually. The orchard was commercially managed for pests and zinc was applied as a foliar spray.

Three trees were selected for the study. Nuts from thirty shoots each of three shoot types on each tree were individually harvested and shoots tagged to monitor return bloom. The shoot types were terminal shoots, lateral shoots, and shoots with secondary growth. Cluster sizes on the three shoot types ranged from 1 to 9 fruit/cluster. Thus we harvested 270 fruit clusters with about 1500 nuts that were individually weighed, shelled and graded. Return bloom was recorded on 270 shoots.

Cluster size did not affect average nut weight on terminal shoots and shoots with secondary growth (Fig. 1). However, average nut weight decreased as cluster size increased on lateral shoots. Cluster size was negatively related to kernel percentage on terminal and lateral shoots, but not on shoots with secondary growth (Fig. 2). These data suggest that nuts are more likely to be smaller on lateral shoots than on the other shoot types as cluster size increases. In addition, kernel percentage decreased with cluster size, if the shoot did not have secondary growth. The leaves on a shoot support fruit development on that shoot. There appears to be little carbohydrate transport from surrounding shoots to support fruit development. Therefore, shoots with more leaves are able to support larger fruit clusters. Terminal shoots tend to be longer with more leaves than lateral shoots, so nut weight was only affected by cluster size on the shorter lateral shoots. Also, translocation of carbohydrates from surrounding shoots, although low, may be greater to terminal shoots than to lateral shoots. In this study, there was a distinct advantage if shoots developed secondary growth early in the growing season.

Total kernel weight per shoot increased linearly as cluster size increased (Fig. 3). More nuts in a cluster should increase kernel weight per shoot. However, the surprising relationship was that kernel weight increased linearly with

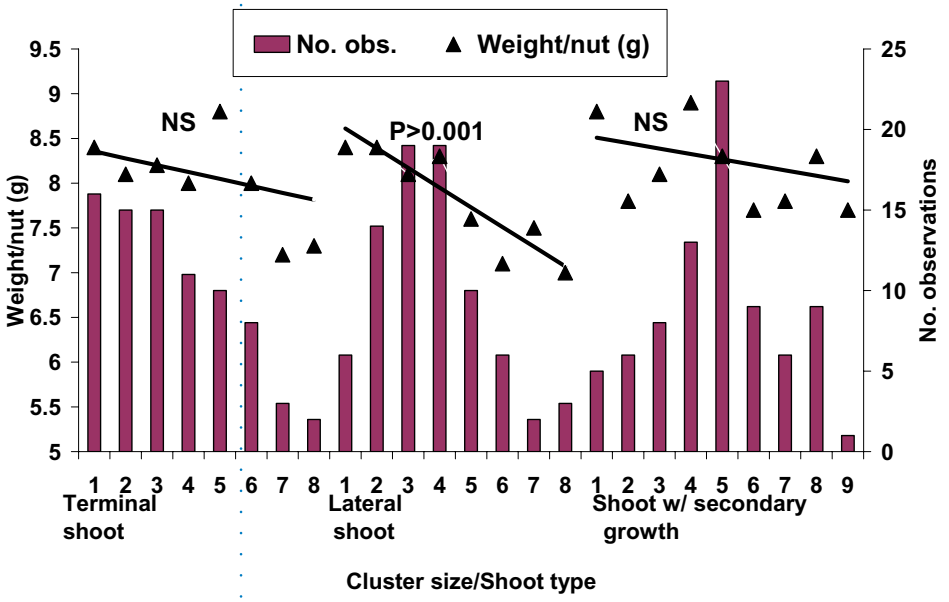

Figure 1. The relationship of cluster size with average nut weight on three shoot types. Vertical bars are the number of clusters observed, and lines reflect the relationship of cluster size and average nut weight.

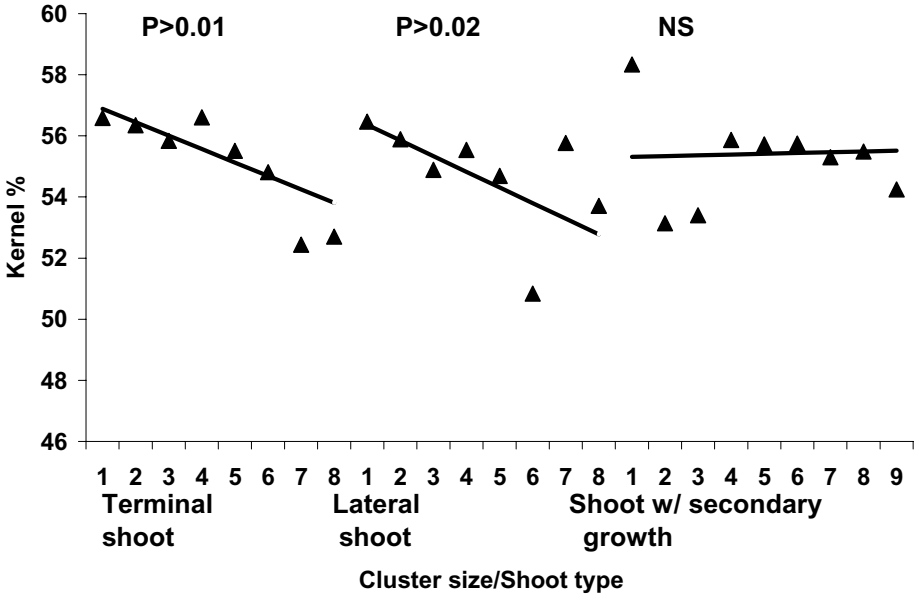

Figure 2. Relationship of cluster size with kernel percentage on three shoot types.

cluster size for each shoot type. This suggests that even at 8 or 9 fruit/cluster, the shoot had not reached its maximum carrying capacity. A curved relationship would suggest that the shoot was approaching maximum fruit carrying capacity.

Return bloom was negatively related to cluster size on terminal shoots, but not on other shoot types (Fig. 4). This is rather surprising since it suggests that return bloom on lateral shoots and shoots with secondary growth is similar with 1 fruit or 8 fruit per cluster. However, on terminal shoots return bloom was reduced from 60% shoots fruiting the next year that had 1 fruit/cluster to 18% fruiting when there were 8 fruit/cluster. Return bloom was greatest on shoots with secondary growth, followed by terminal shoots, and lateral shoots had the lowest return bloom.

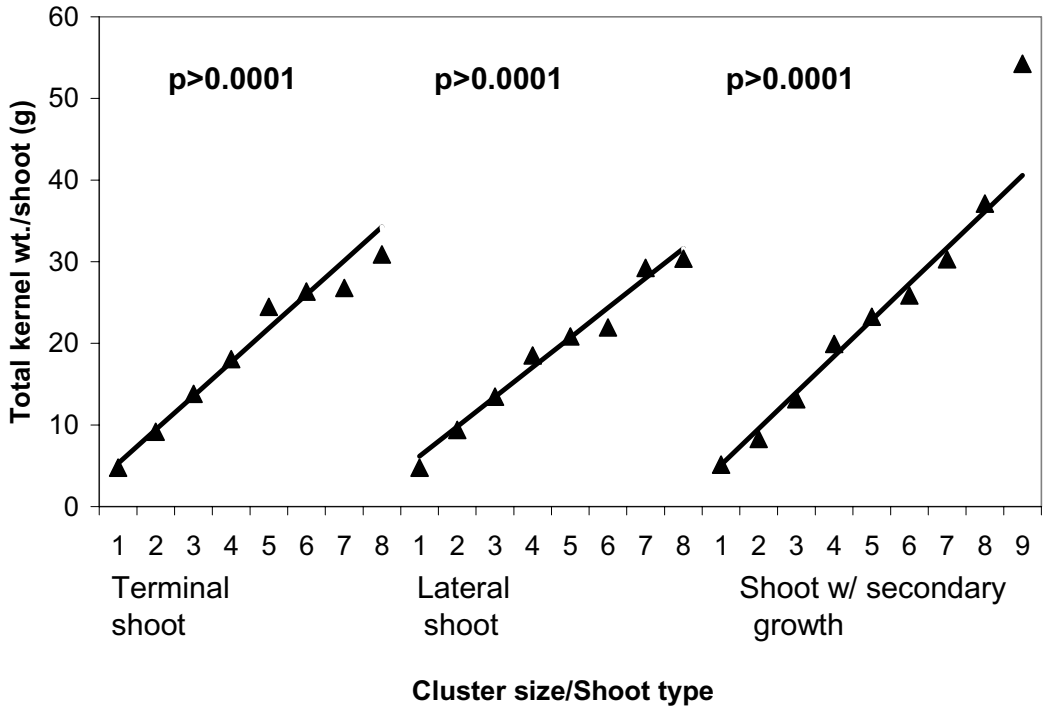

Figure 3. Relationship of cluster size with total kernel weight per shoot on three shoot types.

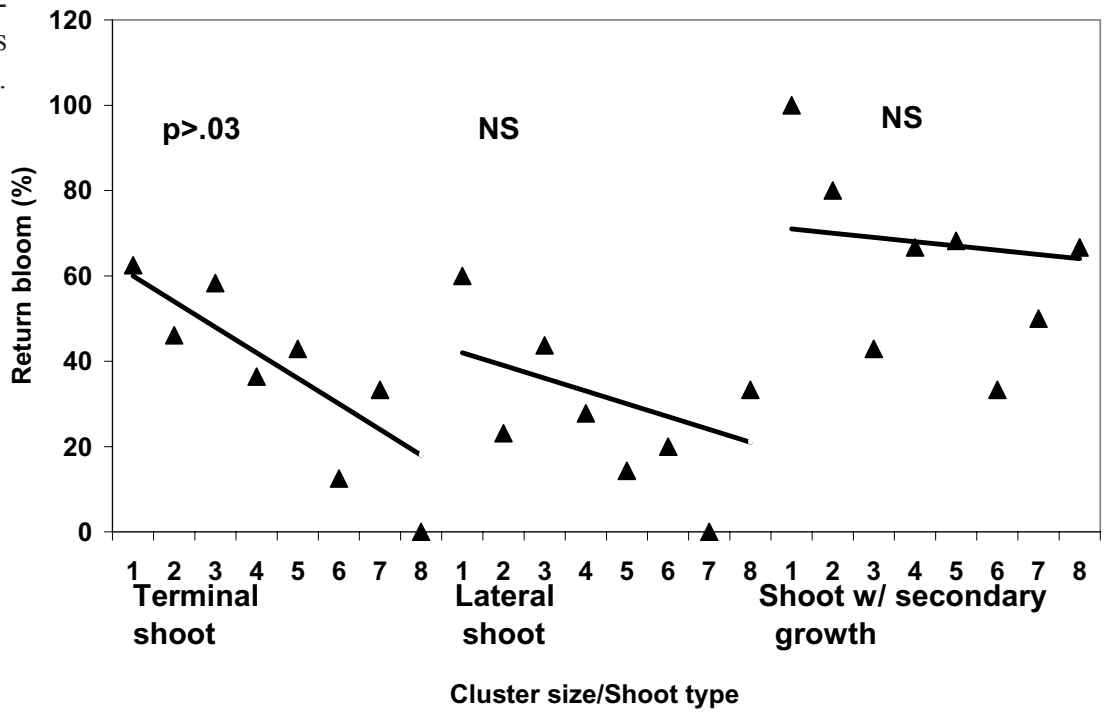

Figure 4. Relation of cluster size with return bloom of three shoot types.

New Insecticides available on Pecan

Phil Mulder – Extension Entomologist

In an email message in late March, from Dr. Bobby Haygood, DowAgrosciences has announced that applications of Spintor™, Entrust™ and Intrepid™ to pecan have no grazing restrictions. This is very good news to the pecan industry in Oklahoma, which generally relies heavily on the ability to graze orchard floors before, during and after application of chemicals for insect control.

For growers who are not aware, Spintor and Entrust are essentially the same material, called Spinosad. The active ingredient in these chemicals is derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism. These spinosad products have been available in pecan for a couple of years now and will control caterpillar pests in pecan quite well. Pests targeted for these chemicals include the pecan nut casebearer, hickory shuckworm, walnut datana and fall webworm. These products should not be used to control pecan weevil or other beetle pests in pecan. For growers that are interested in marketing their pecans as organic, Entrust is listed by the Organic Materials Review Institute for use in organic production. While Spintor is the same active ingredient, it is not listed for use by organic growers. One point of caution, the active ingredient in these products can be potentially toxic to aquatic invertebrates and honey bees, therefore, do not contaminate water when using or disposing of materials containing these products. Fortunately, honey bees do not actively forage in pecan, so little risk to these organisms is possible. Make certain that these products are not allowed to drift into sensitive areas containing foraging honey bees or aquatic invertebrates.

The active ingredient in Intrepid is methoxyfenozide, an insect growth regulator. The mode of action of this chemical is similar to Confirm, which will soon be phased out and replaced by Intrepid. The active ingredient in Confirm is tebufenozide, also a growth regulator. In several efficacy trials across the country, including Oklahoma, performance of these two chemicals was similar. In addition, performance of the spinosad products was also comparable to the insect growth regulators.

The bottom line for most growers making a decision on what to use, will be based on costs. In discussing prices with Estes Chemical in Oklahoma City, the following table reflects the chemical costs they associated with an application of each of these materials. Surprisingly, the newest chemistry to surface, Intrepid, is currently priced less than Confirm, the material it will replace. This is also good news for a change. Let's hope that trend lasts.

Chemical	Rate (ounces/Acre)	Cost/Acre ($)*
Entrust	1.25	25.15
	3.00	60.37
Spintor	4.0	17.32
	10	43.29
Confirm	8	11.33
	16	22.65
Intrepid	4	7.08
	8	14.16

* Costs = Retail cost (Dealer Price + 12% markup). Does **not** include application costs.

OPGA General Membership Business Meeting

There will be a special Business Meeting of the general membership at 8:00 p.m. on Friday, June 11 at the Comfort Inn Suites in Idabel to discuss the Oklahoma Pecan Assessment Initiative and vote on pursuing this initiative. The meeting will follow the Social and Bar-B-Q dinner at the OPGA annual meeting. On June 12, Michael Adams will discuss the Texas Pecan Assessment Program. Following his talk, Bill Ihle will discuss the Oklahoma Pecan Assessment program. There will also be a booth in the trade show with information concerning the Assessment Program.

Oklahoma Pecan Funding Initiatives

W.C. Ihle, OPGA President

Funding initiatives supporting pecan research and extension in Oklahoma were discussed during the OPGA general membership meeting last year at our state pecan show in Oklahoma City. Budget shortages at Oklahoma State University dictate that positions will not be replaced as they are vacated due to retirement and or for other reasons. The industry must step forward with financial support for programs if the vacated positions and other pecan positions are to be priorities for the University. At the annual business meeting, Cindy Wise, Texas Pecan Growers Association and Dr. Tom Crocker, Georgia Pecan Growers Association, discussed how the current pecan programs were working in their respective states. The states of Georgia and Texas have successfully implemented support programs that are being funded by a ½ cent per pound check-off on pecans.

Past Oklahoma pecan initiatives were also discussed that were assessed at the first handler. A discussion by the general membership of a new check-off program ensued, and it was evident that most agreed that the OPGA should actively support the check-off initiative. I discussed in detail Senate Bill 420 that created the Oklahoma Agriculture Commodity Referendum Act (OACRA) in 1999. The purpose of the OACRA was to authorize and prescribe the procedures by which the producers of an agricultural commodity grown in Oklahoma could establish agricultural commodity producers' boards to finance programs devised to alleviate any circumstance or conditions that served to impede the production, marketing, research or use of any agricultural commodity.

Your OPGA Board of Directors has put a lot of time and effort into this funding initiative over the last year. We will have it ready to present to the general membership at this year's state pecan meeting and show in Idabel. Beginning with the petition drive, thru the communications with the Oklahoma Department of Agriculture and finishing with a state election will take approximately 9 months. This funding initiative will be discussed at our annual business meeting and if it is passed by the general membership will become one of the most serious and important project that OPGA has ever pursued. I'm sure you have many questions; therefore, an information booth will be set up in the exhibit hall during our state show. ***To make a pecan check-off program a reality, it must be a collective effort by ALL OPGA members***. One person or your OPGA Board cannot do this alone.

To me, the problems the Oklahoma pecan industry faces are serious. As your President, I have taken this challenge seriously and I have committed myself to see it become reality. The OPGA needs your support and your energy. I truly hope you and your pecan grower neighbors will make an effort to come to this years meeting in Idabel on June 12 and 13 to discuss our future. Look forward to seeing you there.

OSU Research and Extension Programs

Faculty time working on pecan related issues has decreased in some areas and increased in others during the last 20 years. Faculty are generally assigned to work in multiple areas (research, teaching and extension), and on multiple crops. Those areas that have decreased are extension horticulture with one person working 80% of his time on pecans to 50% and now the position is vacant and not scheduled to be filled in the near future. Research entomology had a faculty member with 50% time dedicated to pecans and now has none, with no plans to refill the position. Research and extension plant pathology has decreased from one faculty member with a 100% assignment on pecans to a faculty member with only a 10% pecan assignment. Areas that have increased are research horticulture from 50% to 80%, and new personnel have been added that work on postharvest research (20%), and food science (5%). A summary of the recent history (last 10 years) of faculty working on pecans is below. At other Universities the trend in faculty assigned to work on pecans is similar or in many instances more severe.

Funding for research and extension programs has also changed dramatically in the last 20 years. Twenty years ago, state and federal funds were sufficient to support research programs with extramural grants supplementing existing programs. Now, state and federal funding is almost nonexistent. A typical allocation from state and federal funds for a research program is about $2000. This barely covers the cost of phone service, vehicle insurance, software fees, internet service and copying. Extension funding is no better with a typical allocation of about $2100 to cover phone, travel, publications, etc. Both research and extension programs rely on extramural grants from federal and state agencies, foundations, and producer organizations for program support. Federal grant programs for applied research or extension have become scarce in recent years. The focus of federal programs is now on basic research, such as biotechnology, bioterroism, genetic plant processes, etc. Applied programs must be supported by producer groups for those programs to remain a viable part of University research and extension programs; oth-

erwise, they will not exist in the future. This is true at other Universities and for all crops. Those organizations that have accepted the challenge to partner with the University have seen their University support remain stable or grow. The University has a substantial investment in faculty, technicians and facilities. Dwindling resources have forced administrators to choose which programs to support since they no longer have the luxury to support everything. This reality is not the result of the current short-term financial crisis, but a long-term reduction in agricultural funding and a shifting of priorities at the federal level from formula funding (federal funds given to state agricultural experiment stations then divided at the state level among programs) to competitive grants aimed at basic research.

OSU Faculty

Current O.S.U. pecan specialists (% time assigned to pecans)

Mike Smith, research horticulturist, 80%
Phil Mulder, extension entomologist, 20%
Sharon vonBroembsen, extension/research plant pathologist, 10%
Niels Maness, research postharvest physiology, 20%
William McGlynn, extension food scientist, 5%

Other O.S.U. scientists working on pecans

Marvin Stone, research biosystems engineer, 3%
John Solie, research biosystems engineer, 2%
Paul Weckler, research biosystems engineer, 10%

Recently vacated pecan positions at O.S.U.

Dean McCraw, extension horticulturist, 50%
Ray Eikenbary, research entomologist, 50%

Pending retirement at O.S.U.

Sharon vonBroembsen, extension/research plant pathologist, 10%

Current research and extension pecan programs at O.S.U.

Web-based pecan short course - http://pecan.okstate.edu/
Class-based pecan short course
Web-based pecan scab prediction model and fungicide application thresholds - http://agweather.mesonet.ou.edu/models/pecanscab/default.html
Web-based pecan nut casebearer prediction model - http://agweather.mesonet.ou.edu/models/pecannut/default.html
Extensive collection of Extension Fact Sheets covering numerous pecan topics - http://osuextra.okstate.edu/
Pecan sanitation and labeling requirements for retail markets
Studies to refine nitrogen management for pecans
Weed management for pecan establishment
Advanced pecan breeding lines screening and variety testing - member of NPACTS
Studies to reduce irregular bearing
Calcium effects on kernel quality and storage life
Novel technology to remove pecan weevil larvae during cleaning and/or processing
Insecticide screening and alternative control techniques for key pecan pests
Fungicide screening for pecan scab
Herbicide screening for weed management
Techniques to delay pecan budbreak, i.e. reduce spring frost susceptibility
Sensor-based automated pecan grading system
Sensor technology to estimate pecan nitrogen needs
Pecan value-added products

Some research accomplishments at O.S.U.

Developed and refined pecan weevil monitoring systems with economic action thresholds
Determined pecan weevil biology
Pecan nut casebearer pheromone and economic action thresholds
Pecan scab prediction model
Leaf analysis program for fertility, with research to determine optimum leaf elemental concentrations and application rates
Mechanical fruit thinning
Nondestructive kernel oil extraction technology
Relationship of leaf retention and crop load with return bloom and nut quality
Pecan variety recommendations
Drip irrigation for pecans
Optimum stocking density for native pecan trees
Weed management program for pecans
Legume ground cover management system for native pecans to increase beneficial insects, supply nitrogen and increase forage grazing quality
Wildlife depredation losses in pecan - this information supported the Oklahoma crow baiting project
Developed pecan rootstock recommendations for Oklahoma

PECAN GRAFTWOOD SOURCES - 2004

Becky Carroll, Senior Agriculturist
Oklahoma State University

	Pecan Varieties																												Walnut	
Name and Address	Barton	Caddo	Cheyenne	Choctaw	Creek	Dooley	Giles	Graking	Greenriver	Houma	Kanza	Kiowa	Major	Maramec	Mohawk	Mount	Nacono	Navaho	Oconee	Osage	Pawnee	Peruque	Posey	Shawnee	Shoshoni	Sioux	Squirrel	Stuart	Wichita	Black	Carpathian	
Dick Hoffman 7104 E. 32nd Ave Stillwater, OK 74074 Phone: 405-372-3583	X		X	X	X		X	X		X	X	X		X	X		X	X	X	X	X	X		X	X	X	X	X	X	X		All varieties $1.00 per 12" stick. Minimum order 5 sticks per variety (2 grafts/stick). Add $5.00 priority mail shipping. Call or write about varieties not listed.
Wes Rice 9704 Braden School Rd. Ponca City, OK 74604 Phone: 580-765-7049 wrice@poncacity.net	X		X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	Price: $1.00 per 12" stick (2 grafts/stick). Minimum of 3 sticks per variety. Add $4.95 postage and handling. Over 20 other pecan and 3 black walnut varieties available if ordered by March 15.
Diane Couch Couch Orchard P.O. Box 25 Luther, OK 73054 Phone: 405-277-9249														X	X				X		X			X								50 cents per graft. Add $5.00 postage and handling. Call about other varieties.
Bob Skurdal 4446 Keeler - 10 Road Ponca City, OK 74604 Phone: 580-765-2717 bigolswede@yahoo.com						X					X			X							X			X								Price: $1.00 per 12" stick. Minimum order 5'. Please add $4.50 postage and handling. All orders by March 1.
Cedar Creek Pecan Farm Carole Smith Rt. 2 Box 423-2 Cleveland, OK 74020 Phone: 918-358-5796		X					X				X			X		X	X		X		X											All varieties $1.00/stick (2 grafts/stick). Minimum order 5 sticks per variety. Add $5.00 priority mail shipping.

This list does not imply endorsement of listed suppliers by CES or discrimination against unlisted suppliers.
This list is for educational purposes only.

Injury Update

Bill Ihle's leg is beginning to heal. It was a severe break of both the large and small bones in his lower right leg. He is now able to get around on crutches, but has several more months before it will be completely healed.

When I visited with Bill, he told me the first thing he remembers following the accident was his wife, Suzen, jumping from the creek bank and landing by his side. He was covered with mud, and was quickly becoming cold and perhaps going into shock. Suzen was instrumental in keeping him warm, conscious, and his spirits up as they waited for the ambulance. Even after the ambulance arrived, the ordeal was not over. The ambulance team was unsure how to remove Bill from the creek. According to Bill, Suzen was the calm force that facilitated his eventual rescue and transport to the hospital.

Our best wishes to Bill for a speedy and complete recovery and thanks to Suzen for her calm demeanor in a crisis situation, and nursing a stubborn patient.

Membership Application

We invite you to become a member of the Oklahoma Pecan Growers' Association. Membership includes the *OPGA Newsletter*, *Pecan South* and *Pecan Grower*. Make your checks payable to OPGA and mail to:

Oklahoma Pecan Growers' Association
Catherine Shelton, Treasurer
15857 S 49th W Ave
Glenpool, OK 74033
OPGAShelton@aol.com

Name _____

Street Address _____

City, State, Zip _____

Phone (_____) _____

❑ Renew ❑ New Member

Grower Member $50.00
Industry Member $125.00
Extension/Research/Student $40.00

Return Service Requested

Oklahoma Pecan Growers' Association
c/o Horticulture & Landscape Architecture
Oklahoma State University
360 Agricultural Hall
Stillwater, OK 74078-6027