



OKLAHOMA PECAN GROWERS ASSOCIATION

Volume XLVI, No. 2

Michael Smith, Editor

April, May, June 2005

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OPGA Loses a Friend

Wes Elkins, a longtime pecan grower and OPGA member, passed away March 12, 2005 at the age of 80. Mr. Elkins lived in Central High located near Stephens county.

Wes was born December 30, 1924 in Oklahoma City to Marvin Galloway and Letha Mary (Bonnell) Elkins. He graduated from the Oklahoma Military Academy, and served in the Army Air Corp during WWII. He married Jeannette Dodson in 1966 in Wichita Falls, Texas.

He worked for the Oklahoma Paper Company, and retired from Sears after working from 1968-1986. After his retirement, he operated his own pecan farm at his residence.

Wes won numerous awards in the OPGA State Pecan Show. He had the Champion seedling several years with the last few winners in 1999, 2001, and 2002. Wes and his prized Gratex pecan won Highest % Kernel many times including 1995, 1997, and 2001.

Soil Water Uptake Patterns of Pecan Trees Grown in Coarse Gravelly Soils

Ronald B. Sorensen, USDA-ARS, National Peanut Research Laboratory
Tim L. Jones, Dept. of Agronomy and Horticulture, New Mexico State University

Summary: Soil depth for water uptake in pecan trees [*Carya illinoensis* (Wangenh.) C. Koch 'Western Schley'] is considered to be <100 cm (3.2 ft) for sites that have high water tables. The objective of this research was to determine the water uptake pattern of pecan trees grown on sites with a deep water table [>30 m (100 ft)] and irrigated at 50 kPa (0.5 bar). Trees (15- to 20-year-old trunks) were transplanted into laser-leveled terraces in 1986. Two terraces (T) were selected and irrigated (1994 and 1995) at 50 kPa (T5) and farmer controlled [T6, weekly at ~30 kPa (0.3 bar)]. Soil water content was measured on a 1.3 by 1.3 m (4 ft by 4 ft) grid for one tree in each terrace using a neutron probe. In 1994, the average soil depth for water uptake was 75 (2.5 ft) and 62 cm (2.0 ft) for T5 and T6 respectively. In 1995, the average soil depth for water uptake was 150 cm (5 ft) on T5 and 130 cm (4 ft) on T6. The total quantity of water removed below 140 cm (4.6 ft) soil depth was minor (<15%) when compared with the total water removed between 0 and 140 cm depth. T5 showed a deeper (260 cm; 8.5 ft) and wider (3.0 to 5.0 m; 10 to 16 ft) water uptake pattern compared with T6. Thus, pecan trees growing on these coarse soils with a deep water table and irrigated at 50 kPa have an effective root zone of ~140 to 150 cm (4.6 to 5.0 ft).

Source: *HortTechnology* (1999) 9:402-408.

Web Sites

Those of you with internet access probably have the Oklahoma Pecan Management page, <http://www.hortla.okstate.edu/pecan/>, bookmarked. There is also an Oklahoma Pecan Growers' Association web site, <http://www.hortla.okstate.edu/pecan/opga/index.html>. This site contains program and registration information for the 2005 OPGA meeting June 19-21 and an OPGA membership application in Adobe format that is printable. The OPGA newsletters are also archived at this site. You can retrieve the newsletters in Adobe format beginning with the October/November/December 2003 issue. A new addition to the OPGA web page will be a list of retail pecan stores owned by OPGA members, plus custom harvesters, managers, cleaners, processors and pecan buyers that are OPGA members.

Update on Pecan Scab Fungicides

Sharon von Broembsen and Michael Smith

New information on pecan fungicides has become available since the last newsletter, as companies rush to get products out before the new growing season. The Table below contains two new fungicides and has also been re-arranged to emphasize which products can be grazed and which products are most dangerous to applicators (Restricted Use Pesticides).

A new fungicide, Pristine, has been registered for a number of fruit and nut crops, including pecan. The product contains two active ingredients: pyraclostrobin (the same active ingredient as Headline) and boscalid, a new fungicidal active ingredient. Boscalid is registered to control powdery mildew on other crop labels but powdery mildew is not specifically listed on the pecan label. Pristine can be grazed and is in the least dangerous category for worker safety. The product is available locally at about \$210/ 6.25 lb and the application rate is 10.5- 14.5 oz product per acre or \$22.05- \$30.54 per acre, making it pricey.

A supplemental label for pecans has just come out for another relatively new (2004) fungicide, Quilt, which contains azoxystrobin (active

ingredient of Abound) and propiconazole (the active ingredient of Orbit, which is no longer available). The product is labeled for scab and powdery mildew. Quilt can not be grazed, but is in the least dangerous category for worker safety. Quilt is available locally at about \$360/ 2.5 gal and the application rate is 10.5-14.5 oz product per acre or \$22.05- 30.54 per acre, making it pricey also. The product in the distribution chain right now does not have pecan on the label so be sure to get the supplier to give you a copy of the supplemental label for pecan. The supplemental label has lots of useful and legal information that you will need.

The reason that these combination fungicides are being rushed out is that resistance to strobilurins has been developing relatively quickly over a wide range of crops. This has happened because strobilurins work well and have been extensively overused, without proper rotation with fungicides with different modes of action. The two new fungicides combine another entirely different mode of action with a strobilurin to try to prevent the development of resistance to strobilurins. We were not able to locate a local distributor that carries Stratego, another strobilurin and triazole combination fungicide with similar advantages and disadvantages as Quilt. It is included in the information below in case you are able to locate a source and want to use it. The Table below gives the chemical classes of the fungicides registered for pecans and should be used to guide your rotation program if you find the new combination fungicides are too pricey.

Local distributors have indicated that they do not intend to continue carrying the three Restricted Use

Pecan Scab Fungicides

	Chemical Class	Brand Name*	Amount Material/Acre	Signal Word
Grazing Permitted				
	thiobendazole	Topsin M WSB*	1.0 lb	Caution
		Topsin 70WP*	0.5-1.0 lb	Caution
	strobilurin	Abound	6.3-12.3 oz	Caution
		Sovran	prepollination 2.4-3.2 oz; post-pollination 3.2-4.8 oz	
		Headline		Warning
	strobilurin/ boscalid	Pristine		Caution
No Grazing				
	triazole	Enable 2F*		Caution
	strobilurin/ triazole	Quilt*		Caution
		Stratego		Warning
	dithiocarbamate	Ziram 76DF		Danger
No Grazing & Restricted Use				
	tin/ triazole	Enable 75WSP/ Agri Tin Co Pack*	See label.	Danger/ Poison
		Orbit 45WP/ Super Tin*	See label.	Danger/ Poison
	tin	Super Tin 80WP AGPAK*	See label.	Danger/ Poison

* Products also registered for control of powdery mildew.

Products listed near the bottom of the Table. Please note that these products may only be used with closed cabs, may not be grazed, and have numerous application restrictions and safety practices that must be observed. You must be a certified applicator to purchase them. These fungicides are in the most dangerous category for workers and the environment. That is why they are labeled with a skull and cross bones symbol and the word poison in red.

And finally, if you want to go online and print out the March 2005 updated version of CR-6209 Commercial Pecan Insect and Disease Control, use this URL: <http://pods.dasnr.okstate.edu/docushare/dsweb/View/Collection-326>.

Fungicides and Insecticides: Chemistry and Resistance Management

William Reid, Kansas State University

Like every other part of the economy, agriculture is becoming increasingly technical. Twenty-five years ago the extension service provided growers with a spray schedule that pecan producers could follow to control insects and diseases. But that simple approach to pest management led to problems with secondary pest outbreaks and the development of pest resistance to chemical control.

Today we take a more conservative approach to pest control. We monitor our orchards more carefully and spray only when necessary. We rotate pesticides to avoid the development of pest resistance. And finally, we try to use chemicals that are the least disruptive to the environment, killing harmful pests while preserving natural biological control agents.

This IPM approach to pest management requires that growers become familiar with the chemistry of the products they use and their effects on non-target species. Over the next several years you will start to notice a new pesticide classification system listed on the label of every fungicide and insecticide. Prominently displayed in a boldfaced box you will note a simple classification number, for example **GROUP 7 FUNGICIDE**. In some cases, especially fungicides and herbicides, a product might contain two active ingredients with different classification numbers. In this case two group numbers will be listed in boldface box. To avoid developing resistant strains of a pest you should rotate chemicals that are in different pesticide groups. (note: the group numbers for fungicides are in no way related to the group numbers for insecticides).

In the tables that follow this article, I will list the insecticides and fungicides registered for use in pecan orchards along with their pesticide group number. In addition to the information listed in these tables, check out the following websites for additional information on pesticides and the avoidance of pest resistance to pesticides.

Full pesticide label information:

www.cdms.net/manuf/manuf.asp

Pesticide classification sites:

www.irac-online.org/resources/moa.asp

www.frac.info/publications/frac_list02.html

Fungicide Classification

Group	Family	Common name	Trade name
1	Methyl bezimidazole carbamates	thiophanate-methyl	Topsin-M
3	DMI-fungicides	Fenbuconazole	Enable
		Propiconazole	Banner Maxx Propimax
11	Qol-fungicides	Azoxystrobin	About Heritage
		Pyraclostrobin	Headline
		Trifloxystrobin	Flint
		Kresoxim-methyl	Sovran
30	Organo tin compounds	Triphenyltin hydroxide	Agri Tin
M7	Guanidines	Dodine	Syllit
7, 11	Carboxamides + Qol-Fungicides	Boscalid + Pyraclostrobin	Pristine
3, 11	DMI-fungicides + Qol-fungicides	Propiconazole & Trifloxystrobin	Stratego
3, 30	DMI-fungicides + Organo tin compounds	Propiconazole + Triphenyltin hydroxide	SuperTin Agpack

Insecticide Classification

Group	Family	Common name	Trade name	
1A	Carbamates	Carbaryl	Sevin Prokoz Sevin	
1B	Organophosphates	Azinphos-methyl	Guthion Sniper	
		Chloropyrifos	Chloropyrifos Govern Lorsban Nufos	
		Phosmet	Imidan	
		gamma-Cyhalothrin	Proaxis Lambda T Warrior	
3	Pyrethroids	lambda-Cyhalothrin	Lambda T Warrior	
		Cypermethrin	Ammo	
		zeta-Cypermethrin	Mustang-Max	
4A	Neonicotinoids	Esfenvalerate	Asana XL	
		Imidacloprid	Provado	
5	Spinosyns	Spinosad	SpinTor Entrust	
			11B2	Microbial disruptors
18	Diacylhydrazines	Tebufenozide	Confirm	
		Methoxyfenozide	Intrepid	

Sprayer Calibration for Pecans

Michael Smith and Phil Mulder
Oklahoma State University



1. Determine the average tree size in the orchard by measuring either the trunk diameter or circumference at breast height (about 4.5 feet) of about 20 trees.
2. Check and clean as needed all nozzles and filters on the sprayer.
3. Park the sprayer on a level site then fill the sprayer's tank completely with water.
4. Measure a distance of 500 feet. Spray the 500 feet under the same conditions used to spray the orchard, i.e. same speed, pressure settings, etc. Do not turn-off the sprayer for the entire 500 feet.
5. Return the sprayer to the exact position where it was filled. Measure the amount of water required to refill the tank completely.
6. Find the average tree size in the table, as determined in step 1. Multiply the gallons of water used, as determined in step 5, by the conversion factor for the average tree size to ascertain the sprayer delivery rate in gallons per acre. *This assumes trees are sprayed from two sides. It is strongly recommended that trees be sprayed from two sides – single sided spraying is usually inadequate.*

Example 1: The average *diameter* of 20 trees was 17 inches. The sprayer delivered 35 gallons in 500 feet. The conversion factor in the table for trees that average 17 inches in *diameter* is 3.8.

Thus: 35 gallons x 3.8 = **133 gallons / acre.**

Example 2: How much Abound should be added to 300 gallons to apply the labeled rate for pecan scab of 8 fluid ounces/acre using the sprayer in Example 1? Surfactants are normally included with fungicides to improve coverage of the leaf and shuck surface. The rate for SurfKing Plus (surfactant) is 4 fluid ounces/100 gallons. How much SurfKing Plus should be added to 300 gallons?

Abound

300 gal. tank ÷ 133 gal. per acre = 2.25 acres per 300 gal. tank
2.25 acres per tank x 8 fl. oz per acre = **18 fl. oz. of Abound / 300 gal.**

SurfKing Plus (note the rate on the surfactant is per 100 gal. rather than per acre)

300 gal. tank x 4 fl. oz ÷ 100 gal = **12 fl. oz. of SurfKing Plus / 300 gal.**

Example 3: The average *circumference* of 20 trees was 75 inches. The sprayer delivered 31 gallons in 500 feet. The conversion factor in the table for trees that average 75 inches in *circumference* is 2.7.

Thus: 31 gallons x 2.7 = **84 gallons / acre.**

Example 4: How much Sevin 80S should be added to 500 gallons to apply the labeled rate for pecan weevil of 5 lbs/acre using the sprayer in Example 3?

Sevin 80S

500 gal. tank ÷ 84 gal per acre = 5.95 acres per 500 gal. tank
5.95 acres per tank x 5 lbs. per acre = **30 lbs of Sevin 80S / 500 gal.**

Trunk diameter (inches)	Trunk circumference (inches)	Conversion factor to gal/acre
5	16	12.8
6	19	10.7
7	22	9.1
8	25	8.0
9	28	7.1
10	31	6.4
11	35	5.8
12	38	5.3
13	41	4.9
14	44	4.6
15	47	4.3
16	50	4.0
17	53	3.8
18	57	3.6
19	60	3.4
20	63	3.2
21	66	3.0
22	69	2.9
23	72	2.8
24	75	2.7
25	79	2.6
26	82	2.5
27	85	2.4
28	88	2.3
29	91	2.2
30	94	2.1
31	97	2.1
32	101	2.0
33	104	1.9
34	107	1.9
35	110	1.8
36	113	1.8

Useful Conversions

1 gallon = 4 quarts = 8 pints = 16 cups = 128 fluid ounces = 3.785 Liters = 3,785 milliliters

1 mile = 1,760 yards = 5,280 feet = 63,360 inches = 1.6093 kilometers = 1,609.3 meters

1 acre = 4,840 square yards = 43,560 square feet = 0.40468 hectare = 4,047 square meters

1 pound = 16 ounces = 0.45359 kilograms = 453.59 grams = 256 drams = 7000 grains

1 acre-foot = 43,560 cubic feet = 325,851 gallons = 1,233.5 cubic meters

Useful Formulas

Circumference of a circle = diameter x 3.1416
= radius x 6.2832

Radius of a circle = circumference x 0.159155

Diameter of a circle = circumference x 0.31831

Area of a circle = radius² x 3.1416
= diameter² x 0.7854
= circumference² x 0.07958

Area of a rectangle = base x altitude

Area of a triangle = base x ½ altitude

Degrees centigrade = 5/9 (degrees F – 32)

Degrees Fahrenheit = (9/5 x degrees C) + 32

New Members

Janice Landgraf - Treasurer

The OPGA membership has continued to grow, both renewal and new memberships. The membership drive that Doug Pittman spearheaded in late fall resulted in 68 new memberships.

Donations to Horticultural Research

Michael Smith

Two OPGA members recently made donations to my research program on pecans. Bill Mackin donated \$400 and Ulrich and Janet Young donated \$500. Thank you for the donations, they are a valued source of revenue to support my research program.

Pecan Grower's Assessment Fails

The Oklahoma Pecan Check-off program that would have assessed a ½ cent per pound of pecans sold will not become a reality this next season. The purpose of the Oklahoma Pecan Commodity Board was to support and promote a healthy pecan industry through supplemental funding for extension and research activities that support pecan production and marketing.

The vote failed this month when mailed ballots were counted and less than 1% of eligible voters participated. The vote was 156 (59%) for the proposal and 107 (41%) against the proposal. The program needed a 67% victory to pass. Forty-two ballots were disqualified for not including legal land description or driving directions which were necessary for proof of eligibility.

PECAN GRAFTWOOD SOURCES - 2004
Becky Carroll, Senior Agriculturist
Oklahoma State University

Name and Address	Pecan Varieties															Walnut																							
	Barton	Caddo	Cheyenne	Choctaw	Creek	Dooley	Giles	Graiking	Greenriver	Houma	Kanza	Kiowa	Major	Maramec	Mohawk	Mount	Nacono	Navaho	Oconee	Ozage	Pawnee	Perque	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		X					
Wes Rice 9704 Braden School Rd. Ponca City, OK 74604 Phone: 580-765-7049 w.rice@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				
Dane Couch Couch Orchard P.O. Box 25 Luther, OK 73054 Phone: 405-277-9249														X					X		X																		
Bob Skurdal 4446 Keeler - 10 Road Ponca City, OK 74604 Phone: 580-765-2717 bigolswede@yahoo.com																					X																		
Cedar Creek Pecan Farm Carole Smith Rt. 2 Box 423-2 Cleveland, OK 74020 Phone: 918-358-5796		X														X																							

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

OPGA Pecan Source List

This list will compile members who wish to be included on the OPGA web page as a business or contact for pecans, pecans items, or services. The list will be divided by county. The web site gets many requests for pecans and there is no list available. This directory will be a great tool for growers and consumers.

Please fill out completely and return form by April 20 to:

Oklahoma State University
 Becky Carroll, Horticulture Dept
 360 Ag Hall
 Stillwater, OK 74078

Name of Business _____

Owner or contact person _____

County where business is located _____

Mailing Address _____

Phone _____

Fax _____

Email _____

Website _____

Driving directions from nearest landmark _____

Circle all that you would like to include:

Native Pecans

Improved Cultivars

Retail Shop

Wholesale

Mail Order

Buyer

Custom Cracking

Custom Cleaning

Custom Processing

Custom Harvester

Custom Grafting

Graftwood Supplier

Custom Manager

Other _____

911 Address

Oklahoma is in the process of replacing route and box numbers with street addresses to improve response time in case of emergency. Soon after the new address is issued the Post Office begins returning mail that bears the old address to the sender. As soon as you get a new address, please send the address revision to Janice Landgraf, RR 1 Box 148, Madill, OK 73446 or email her at okpecan@trinex.net.

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
Janice Landgraf, Treasurer
RR 1 Box 148
Madill, OK 73446
okpecan@trinex.net (580) 795-7644

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