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SOUTHEAST GEORGIA PECAN UPDATE

Pre-Emergent Herbicide Plots at VORC

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By Andrew Sawyer, Southeast Georgia Area Pecan Agent

The high price of glyphosate (Round Up) and glufosinate (Cheetah, Rely) last season helped us think about pre-emergent herbicides. At the Vidalia Onion Research Center (VORC), I demonstrated one-shot applications of different pre-emergent products. Instead of spraying a one-time spray for 2023, I am spraying selected pre-emergent herbicide programs. These programs may consist of 2 or 3 sprays of a particular product or mixture of different products. During the field day, you can assess the plots and decide what you like. I'm keeping up with the prices of these programs for you to decide for yourselves what you want to spray.

Input costs remain our top concern, but weed resistance to herbicides is critical as well as time and fuel across the orchard. The table below is the listed programs at the VORC. I began the Pindar program in November (Figure 1) which has made a significant impact on the wild raddish. In the programs below, you may notice different rates. Indaziflam (Alion, Centrus) builds in the soil. Subsequent uses can be obtained with lower rates, thus affecting cost per acre. The best practice is to rotate different herbicides and/or programs. Just like post-emergent herbicides, using the same chemistry again and again will result in weed resistance.



Figure 1. Pindar at 2 pint /acre at 30 days after treatment.

Program	Applications	Tree Age	Pre-Harvest Interval	Price / acre**
1	5 oz Alion (2x)	3 years	14 days	\$223.90
2	3.5 oz Alion (2x)	3 years	14 days	\$157.36
3	2 pt Pindar fb 2 pt Pindar + 3 qt Prowl* Fb 4 oz Matrix (1x)	9 months	60 days	\$229.20
		1 year	14 days	
4	6 oz Chateau (2x)	6 months	60 days	\$178.60
6	5 oz Centrus (2x)	3 years	14 days	\$219.00
7	3.5 oz Centrus (2x)	3 years	14 days	\$154.90
8	3 qt Simazine + 3 qt Prowl (2x)	2 years	21 days	\$164.60
9	2 qt Prowl (3x)	After soil settles around roots	60 days	\$159.00
10	3 lb Solicam fb post emergent spray Post emergent rotate of glyphosate and glufosinate	6 months	60 days	\$165.00
		Year 1	Gly 3 days Glu 14 days	

Table 1. List of pre-emergent herbicide programs and rates sprayed at the Vidalia Onion Research Farm for 2023 demonstration. Prices are taken from online and retail price purchased in 2022. Glyphosate priced based on \$49.00/gal; glufosinate price based on \$80.00 / gal bulk price.

FB = Followed by

* Pindar is applied in dormant season (Nov and March).

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Winterize Irrigation Systems

By Cale Cloud, Grady County Extension Agent

Once harvest season is over, we can think about winterizing our irrigation systems. Whether you have drip, micro-jet, or solid set systems, it is important to perform preventive maintenance. Follow this winterization check list for winterization:

Power units—Power units should be sealed to protect from critter nesting, moisture, and debris like. Wrap combustion or electric motors in tarps or have the unit protected by a shed. Place exclusion barriers on the equipment where wind-blown debris and critters cannot enter.

Pumping system— If operating an aboveground centrifugal pump, the pump housing will need to be drained. Usually, manufacturers place a threaded plug at the base of the pump housing for this purpose. However, the plugs may be difficult to remove once the pump is mounted. Installing a valve where the plug was threaded into the pump housing makes draining the pump much easier. For turbine or submersible pumps, the installation is usually below the frost/freeze line in the soil and will not need special attention.

Suction (intake) line (for surface water)—Pull the line from the water reservoir, drain water from the line, and verify that the intake line and screen are clear. After draining the pipe, cover the open ends to keep critters from entering the pipe. This keeps nesting material and other debris from entering the pipe, which could eventually be drawn into the pump impeller.

Valves, components, and piping— From the backflow valve through the system, it is important to drain water from components, piping, and any elbows, low points, and isolated piping. Open all valves, as closed gate and ball valves trap water and can crack/break when repeated freeze/ thaw cycles occur. Solenoid valves should be left in an open position. To do this without removing the valve, either unscrew the bleeder knob, which is usually located on the top of the valve ($\frac{1}{4}$ – $\frac{1}{2}$ turn is sufficient), or unscrew the solenoid a $\frac{1}{4}$ turn, which is the part with the wires protruding.

Other inline components— Other inline components should be inspected and drained of water. Flow meters (Figure 2), pressure gauges, manual valves, air-vacuum relief valves, and back-pressure valves are usually mounted on the top or side of a water line to ensure that water does not collect in the housing of the device. If mounted at a low point or at the underside of a line, take extra precautions to drain the device, which may involve removing the device from the line to allow it to drain. The screen and sand filters should be drained, inspected, and cleaned.



Figure 2. Position flow meter at the top of the line to ensure that water does not collect in the meter and is not susceptible to freezing.

Electrical systems—ELECTRICITY KILLS! USE PROPER SAFETY PROCEDURES when checking these systems. Generally, electrical pumps for irrigation are run with alternating current (AC) at 60 Hz (cycles per second). For greater water demand voltages — as high as 480 volts — three-phase electrical power sources are used to run motors.

The ampere (amp) is a measure of energy or electricity moving (current) through the line. It is the ampere that makes muscles contract, causing the hand to grab on to a live electrical line and not let go. At 30 milliamps being pushed at 60 cycles, sustained contact can cause tissue damage and lead to ventricular fibrillation, heart attack, or death. Good safety practices include using a lock-out/tag-out system, keeping systems properly grounded, and maintaining a properly functioning multimeter.

When first handling electrical fixtures, fill out tags, put locks on the breakers, wear rubber soled shoes, and remember that the first item to enter a fixture, service box, or controller should be the probes of the volt meter to check if any of the lines are hot.

Once this is done, inspect and replace all damaged wires for damage. Then tighten all contacts. Resistance is measured in ohms, which results in heat, and as metal heats and cools, contacts loosen and create greater resistance. This increased resistance can cause fuses to blow and breakers to trip. Look for signs of burns, water leaks, and wear on individual components.

References

Smith, Erick, et al. "Winterization - Drip Irrigation System Checklist." Drip Irrigation Checklist: Winterization, University of Georgia Extension, 9 Aug. 2016. <https://secure.caes.uga.edu/extension/publications/files/pdf/C%2016-001.pdf>.

Prepare Equipment for Next Year's Harvest

By James Morgan, Daugherty County Extension Agent

Sure, you can almost see the finish line. For most, pecan harvest has come to an end. The Christmas gifts are nearly wrapped and the plans to celebrate with family are being discussed. Well, there is just one more task to be completed before we can put this harvest season to bed. Before you store your harvest equipment, take a little time to make sure that it will be all ready to go next year. A few simple but important steps now, will save time and possibly some money the next time you are ready to use it.

Cleanliness

Before storing your equipment, give it a good thorough cleaning. A pressure washer and an air compressor are useful for these tasks (But, don't forget those safety goggles). Remove all the dirt and debris that you can, as these will tend to hold moisture against the metal and increase the potential for rust.

Paint

Speaking of rust, now is a great time to paint any areas of exposed metal on your machines. While you're at it, you can replace the safety stickers for your machines if needed. You want to do everything possible to stay safe when on the highways and back roads.

Chain and sprocket lubrication

Oil used on your drive chains during harvest season can cause those chains to accumulate sand and dirt which will wear out the chains and sprockets prematurely. However, when storing your equipment, an ample amount of oil can help protect the chains and sprockets from rust. In fact, a light coating of oil will help defend against rust for just about any unpainted surface on your machine. Just remember to wipe most of it off of any moving parts when it's time to crank up the machines for work next fall.

Gasoline

Gasoline does not store very well inside a machine. Depending on the type of motor your equipment has it may be necessary to add a fuel treatment or equivalent to the fuel tank and run the engine for 2-3 minutes to help stabilize the gas over a few months.

Oil

On the other hand, you should make sure the oil in the motors is clean, full, and well-distributed. Remove spark plugs and pour about 1 oz. of oil into the cylinder(s), then crank the engine slowly to distribute the oil. Also, disconnect the negative battery terminal.

Take inventory

Give your machines a good looking over for any missing or damaged parts. While things are a bit slower, it's a great time of year to take care of ordering anything you might need. Dealers will be much busier next fall, and those rush-delivery shipping charges can be costly.

Storage facility

Not everyone has a barn that will hold every piece of equipment, but take care to store your machines in the cleanest, driest place possible. Rust is the enemy of durability over the long haul and every little bit helps. Now that all measures have been taken to clean and store your harvest equipment, go and enjoy this time with your family this holiday season.

Source: Mike Craig, Marketing, Savage Equipment Inc.



Low-Input Variety Update

By Andrew Sawyer, Southeast Georgia Area Pecan Agent & Dr. Lenny Wells, UGA Pecan Specialist

With an increase in input costs and lower prices at this time, varieties produced with little inputs continue to be the path forward (Table 2). We hope to publish data from the last 5 or so years at the Ponder Farm and look forward to these varieties providing data at the Vidalia Onion Research Center.

Pawnee remains a profitable high input variety with its higher price at an earlier harvest. As input costs continue to increase, even Desirable is near its break even price today. These numbers below show the 3-year average up to 2021. The 2022 low-input harvest remains similar with Lakota, which must be fruit thinned, brought in 3,300 pounds per acre. We will have numbers for Avalon soon as it went into the trial later. Though the cost to change is time to production, low-input varieties produce high yield with good quality and high disease resistance.

Three Year Average

	Yield	Count	% Kernel	Cost/A	Price (\$)	Gross (\$)	Net (\$)
Desirable	1490	43	53	1467.98	2.03	3024.70	1556.72
Pawnee*	1068	46	57	1439.98	2.55	2723.4	1283.42
Lakota	2249	48	57	1154.19	1.86	4183.14	3028.95
Excel	2260	46	49	1154.19	1.76	3941.60	2787.41
McMillan*	1162	56	53	1154.19	1.77	2056.74	902.55

Table 2. 3-year Average of Low-Input Varieties from the UGA Ponder Farm in Ty Ty, GA. None of these varieties are sprayed for disease. The 2018 cost reduction from Desirable to low input: Fungicide—0 sprays = - \$192, Insecticide—4 sprays (2 aphid, 1 mite, 2 shuckworm) = - \$29.94, Reduced trips over orchard by 78% = - \$80.82, Total Cost Reduction = \$302.76/acre.

* Pawnee numbers come from commercial orchard.

** McMillan trees are 1—2 years younger than Excel and Lakota.

Pecans and Cold Storage

Critical in storing pecans is enough moisture to maintain quality but not too much moisture to grow mold (Table 3). This level is about 4.5 % which can be maintained by storing nuts at 32 to 34 degrees F and 65 % relative humidity. For storage longer than one year, freezing is recommended.

Temperature	Relative Humidity	Days Before Visible Mold	
		Stuart	Western Seedling
86	80	19	16
	67	96	96
68	80	35	31
	73	78	70
50	80	71	71
	2	136	96
32	80	208	165
	72	304	304

Table 3. Effects of Temperature and Humidity on Mold Growth for In-Shell Pecans. (Southeast Pecan Grower's Handbook)

Upcoming Events

December 13th, 2022—UGA Small Pecan Producer's Workshop Virtual Meeting register at <https://tinyurl.com/UGAPecan2022>

January 2023—Pruning Clinic (TBA) at Vidalia Onion Research Farm on trees between the ages of 1 and 3 years old.

February 24th-25th, 2022—Southeastern Pecan Growers Conference, The Lodge at Gulf State Park, Gulf Shores, AL
For more information visit www.sepga.com.

March 28th-30th, 2023—Georgia Pecan Growers Conference, Georgia National Fairgrounds & Agricenter
Perry, GA. More information to follow.

