

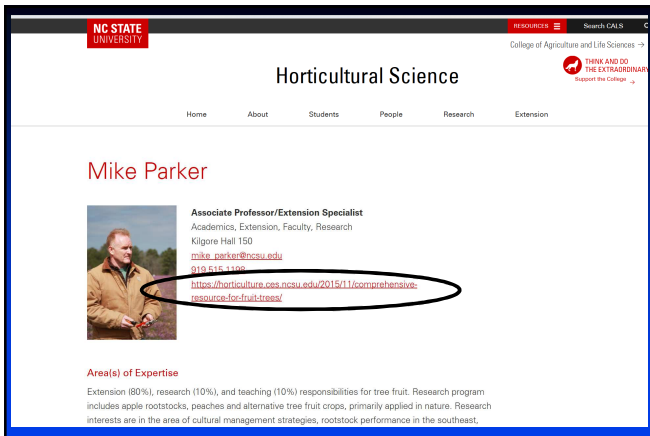
# Growth of a Pecan- What, When and Where



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## PLANTING PECAN TREES



**Horticultural Science**

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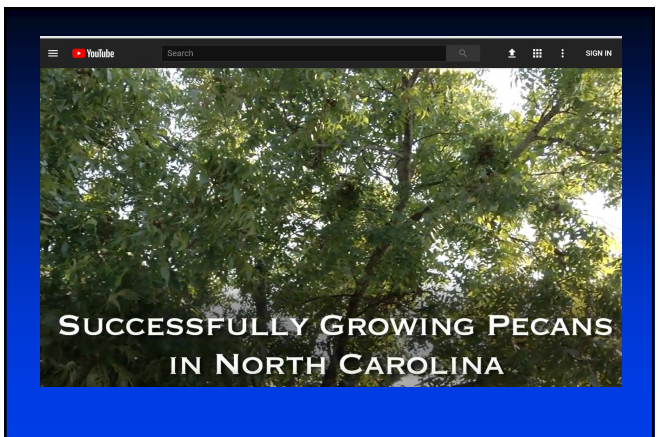
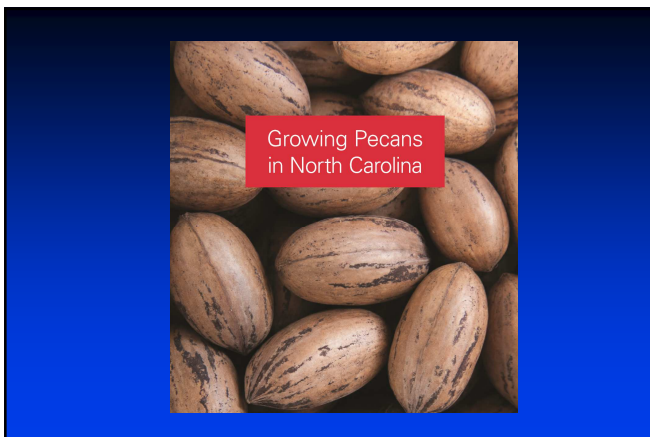
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**Area(s) of Expertise**  
Extension (80%), research (10%), and teaching (10%) responsibilities for tree fruit. Research program includes apple rootstocks, peaches and alternative tree fruit crops, primarily applied in nature. Research interests are in the area of cultural management strategies, rootstock performance in the southeast.



## PRUNING PECAN TREES



## SUCCESSFULLY GROWING PECANS IN NORTH CAROLINA

**2023 Commercial Pecan Spray Guide**

Edited by Lenny Wells  
Extension Pecan Specialist, Department of Horticulture

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[https://secure.caes.uga.edu/extension/publications/files/pdf/B%20841\\_12.PDF](https://secure.caes.uga.edu/extension/publications/files/pdf/B%20841_12.PDF)



Where are pecans formed?

Flower Part	Pollen Grains (#)
Anther (5 per flower)	1,460
Catkin Stalk	715,400
Catkin Group (15,000/tree)	2 million
Tree	32 billion

1997 Texas Pecan Handbook

Pecan Production in the Southeast – a guide for growers, Alabama Cooperative Extension Service, Auburn University, AL

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Why is it important to understand where your pecans are formed?

- Dictates how you should prune
- Helps to know where to look to estimate crop load for marketing and justify inputs/costs
- Helps to determine/effectiveness and need for thinning (?)





STAGE 1. Pistil Pollination	STAGE 2. Early Nut Sizing	STAGE 3. Rapid Nut Sizing	STAGE 4. Late Nut Sizing	STAGE 5. Early Kernel Filling	STAGE 6. Kernel Filling	STAGE 7. Late Kernel Filling	STAGE 8. Shuck Split
<b>Stress = Small nuts</b>				<b>Stress = Poor fill</b>			
1 week* after pollination Early May	6 weeks after pollination Early June	9 weeks after pollination Mid June	12 weeks after pollination Late July	13 weeks after pollination Early August	15 weeks after pollination Mid August	19 weeks after pollination Mid September	24 weeks after pollination Mid-Late October
Stigmas turn brown. Catkins drop. First nut drop occurs.	Nuts grow slowly. Fertilization occurs. Second nut drop.	Nuts grow rapidly, but no kernel development yet. Early water stress. Third nut drop.	Mid water stage. Shell hardening begins at 10.	Water stage. Shell hardening half complete.	Late water stage. Early oil and dough stages. Shell hardening complete.	Late "dough" stage. Kernel development near completion.	Kernel development complete. Nuts can be shelled from shucks.

\*Dates vary with season, location, and cultivar. Diagrams modified from Waterhouse, B. N., and J. B. Staley, 1970. Pecan Quarterly 4(4):15-19.



Eliminating vegetation in the tree row reduces water stress

## Pecan Water Use in Texas

- 150 gals tree/day in August
- 35 ft X 35 ft spacing
- 50 ft tall trees

## Why is it important to understand how and when your pecans grow?

- Dictates how and when you should manage stress
  - Early season nut size
  - Later season filling
- Helps you identify when issues occur (for future reference)



**6 year old Pecan Tree**

- 13 ft tall
- 5 ½ ft canopy width
- 24 ft lateral root distribution
- 6 ft rooting depth

Pecan Production in the Southeast – a guide for growers. Alabama Cooperative Extension Service, Auburn University, AL



**12 year old Success Pecan Tree**

- Sandy loam topsoil, sandy clay subsoil
- 15 ft tall
- 17 ft canopy width
- 47 ft lateral root distribution
- 4 ½ ft rooting depth

Pecan Production in the Southeast – a guide for growers. Alabama Cooperative Extension Service, Auburn University, AL



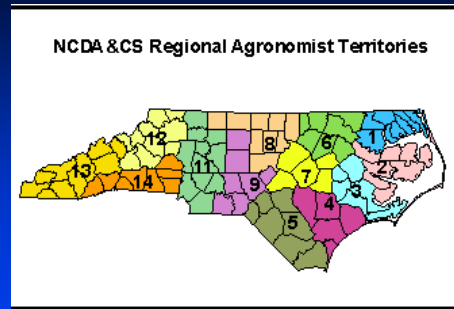


### Why is it important to understand how the trees roots system grows and expands?

- Helps you determine where fertility applications would be most effective
- Helps you determine where irrigation distribution is most effective
- Helps you determine what operations can be conducted without harming the root system



### How many of you know your soil agronomist?



<https://www.ncagr.gov/agronomi/rahome.htm>



### Soil sampling every 2 years

Applied Lime		Recommendations											
Mo	Yr	T/A	Crop or Year	Lime	N	P2O5	K2O	Mg	Cu	Zn	B	Mn	See Note
			1st Crop: Pecan,M	ST	Note 15	0	30-50	\$	0	0			15
			2nd Crop: Pecan,M	0	Note 15	0	30-50	\$	0	0			15

CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	Mn-I	Mn-AI (1)	Mn-AI (2)	Zn-I	Zn-AI	Cu-I	S-I	SS-I	NO3-N	NH4-N	Na
2.1	33.0	1.4	5.2	30	30	21.0	7.0	26			184	184	71	24				0.0

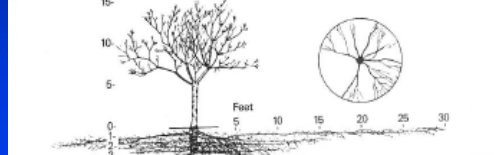


### Rule-of-thumb fertilizer recommendations:

- For young trees - 1 lb of 10-10-10 per year of tree age do not exceed 25 lbs/trees
- For bearing trees - 4 lbs of 10-10-10 per inch of trunk diameter DBH
- On sandy soils trees may not need much P, but more K and S
- On clay soils trees may need more P and little K

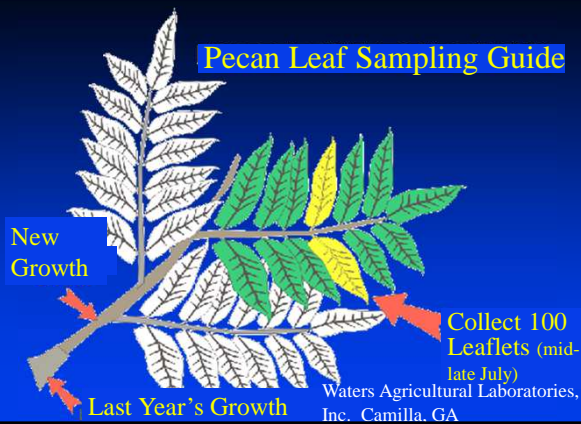
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### Pecan Leaf Sampling Guide



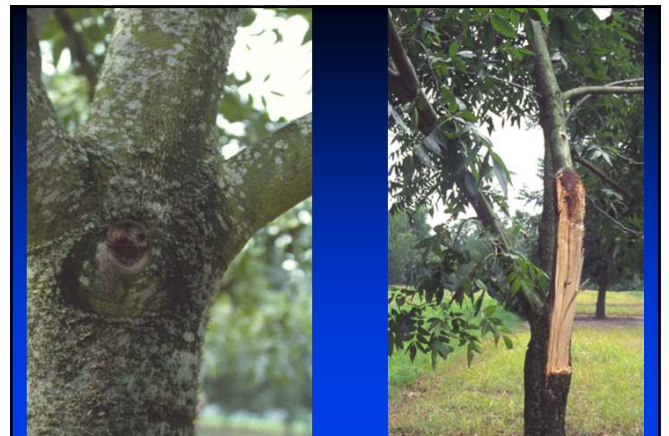
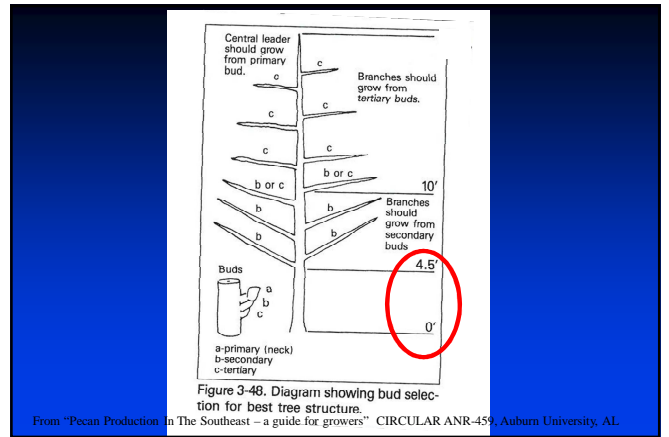
### Why is it important to understand the location and types of buds formed on pecan trees?

- Helps you determine how to prune trees during establishment to develop an optimal framework for future production.

### Where should fertilizer be placed?









**Activities and Benefits of the NC Pecan Growers Association**

- Annual Meeting and Educational Program
- Web site [www.ncpecans.org](http://www.ncpecans.org) and [www.buyncpecans.org](http://www.buyncpecans.org) management and update
- Nutty News 4 published 4 times a year
- Two outstanding world class publications go to every NCPGA member includes both Georgia Pecans and Pecan South
- Summer workshop every other summer
- Participate in the NC Pecan Festival in Whiteville
- Coordinate the children's educational program in Whiteville
- Staff a booth at the huge Southern Farm Show every February
- Board of directors and officers are active throughout the year
- I am on the board for Southeastern Pecan Growers Association to represent NC
- Laurie Wood, our only paid employee (part time), keeps up the web sites, answers many inquiries, coordinates activities, puts out the Nutty News and works at all our meetings
- Marketing efforts??