New Information on Peanut Response to Freezing Temperatures Before and After Digging

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Potential Peanut Yield Gain Relative to Pod Maturity

Response if digging is delayed after optimum maturity Disease Freeze Wet or dry soil Variety PGR

Current Recommendation

Do not dig within 72 hours prior to frost or freeze

Freeze damage of 2% or more results in Seg II peanuts and substantial financial loss

Loss of contract at damage levels lower than 2%

Pods and kernels need to adequately dry to prevent freeze damage, especially immature pods and kernels

Dig within 3 days after a freeze to minimize pod shed

Original source of recommendations?



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The Gene Sullivan Files





1:50 . . . ? . • agrilifetoday.tamu.edu ſŊ FARM & RANCH **Texas** peanut producers faced tough 2020 season Texas Crop and Weather Report - Nov. 17, Website Feedback 2020 November 17, 2020 - by Adam Russell Texas peanut producers experienced a difficult

2020 growing season due to drought, according to a <u>Texas A&M AgriLife Extension</u> <u>Service</u> expert.





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2023 Growing Season in North Carolina

Cold May and early June

Dry June and July at Lewiston

Adequate rain in late August

Good moisture in September and October

Unseasonably cool in late September and October

Crop maturity was delayed by about one week



North Carolina Herbicide Selection Tool

Peanut Digging Evaluation Tool and Pod Sampling Videos

Peanut Risk Tool and Field Log

Crop Enterprise Budgets

Equipment Information Peanut Digger-Shaker-Inverter (DSI)

Field Days

2020 NC Peanut Virtual Field Day 2020 CHROME Field Day

Peanut Notes

Pest Management

Field Crops

Resources

Frost and Freeze Expected November 2 Peanut Notes No. 247 2023

-Written By David Jordan (3 months ago)

> en Español

Growers in many parts of North Carolina and Virginia are advised to NOT dig peanuts after this coming Saturday to avoid freeze damage. Peanuts need 72 hours under good drying conditions to avoid freeze damage. Details on the frost advisory are provided in previous *Peanut Notes*. A printout is provided at the following link.

Frost Advisory 10-26-23 🛸

LEWISTON NC	51.	50.	56.	58.	59.	50.	42.	35. FROSI
LUMBERTON NC	55.	55.	57.	60.	60.	55.	46.	39.
ORANGEBURG SC	57.	57.	58.	58.	59.	56.	47.	40.
	NATIONAL	WEATHER	SERVICE	MODEL	GIVING	PROBABILITY	OF	RAIN
CAPRON VA	_	_	_	_	0	20	20	0
SKIPPERS VA	_	_	_	_	0	20	20	0
SUFFOLK VA	-	_	_	-	0	20	20	0
WAKEFIELD VA	-	_	_	0	0	20	20	0
WAVERLY VA	-	-	-	0	0	20	20	0
GREENVILLE NC	0	-	-	-	0	10	10	10
LEWISTON NC	-	-	-	-	0	10	20	0
LUMBERTON NC	-	0	-	-	0	10	10	10
ORANGEBURG SC	0	10	-	-	0	-	10	10

A FREEZE IS IN THE FORECAST FOR WEDNESDAY MORNING IN CAPRON, SKIPPERS AND WAVERLY.

FROST IS EXPECTED WEDNESDAY MORNING IN SUFFOLK, WAKEFIELD, GREENVILLE, AND LEWISTON.

2023 Research

Predicted freeze on Thursday morning (November 2) allowed digging on Monday, Tuesday, Wednesday, and Thursday to determine how well the 72-hour recommendation holds up

The freeze was relatively hard and we are not sure how the information would translate to a typical frost





Freeze damage before and after digging

Percent moisture 14 hours prior to a hard freeze.^a

Dig (hours before freeze)	Lewiston	Rocky Mount
Monday (60)	30.3	36.6
Tuesday (48)	41.0	36.2
Wednesday (14) ^b	45.6	40.1

^aDrying conditions on Tuesday and Wednesday were not ideal (rain and clouds) while Monday was clear but cool ^bListed as 24 on graphs

Freeze Damage Pooled Over Locations

Read from Right to Left David!



hrs

Percent moisture 14 hours prior to a hard freeze and freeze damage.^a

Digging date (hours before freeze)	Moisture (Wednesday)	Freeze damage (highest of the range)				
Monday (60)	30 to 36	1.8 (3.8)				
Tuesday (48)	36 to 40	3.1 (5.1)				
Wednesday (14)	40 to 46	4.0 (6.0)				
Thursday (day after)	-	2.5 (8.8)				

Lowiston and Doolar Mount

^aDrying conditions on Tuesday and Wednesday were not ideal (rain and clouds) freeze on Thursday and Friday mornings

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Freeze Damage in North Carolina Based on Hours Between Digging and Freeze Event in 2023 Percentage of Growers (150)



Hours Between Digging and Freeze Event

Peanut Yield

Pounds per Acre Minimal Defoliation of Peanut Canopy



Digging Date in Days Following Optimum Maturity

2023 Summary

Greater variability in freeze damage when digging was closer to freeze event (more variation in moisture of pods)

Did not have a 72 hour interval (Sunday digging)

Hard freeze and not a typical frost

Yield was lower 5 and 12 days after the freeze event (there is not a no-freeze control)

The rate of yield loss from freeze damage above ground did not appear to be more rapid than yield loss caused by disease (inconclusive)

Recommend 96 hours

Some contracts have lower limits than 2%

What about the survey results?



Financial support provided by the North Carolina Peanut Growers Association

Thanks to station folks for allowing us to put in a somewhat complicated test in November after a long harvest season

Thanks for safety given lack of concentration during the preacher's message