



# 2020 NC Cotton Seed Testing Pilot Program

7/20/2020

The North Carolina Department of Agriculture and Consumer Services conducted a cotton seed testing pilot program during the 2020 planting season. The sampling was conducted by our Seed and Fertilizer Field staff with testing conducted in North Carolina Seed Lab.

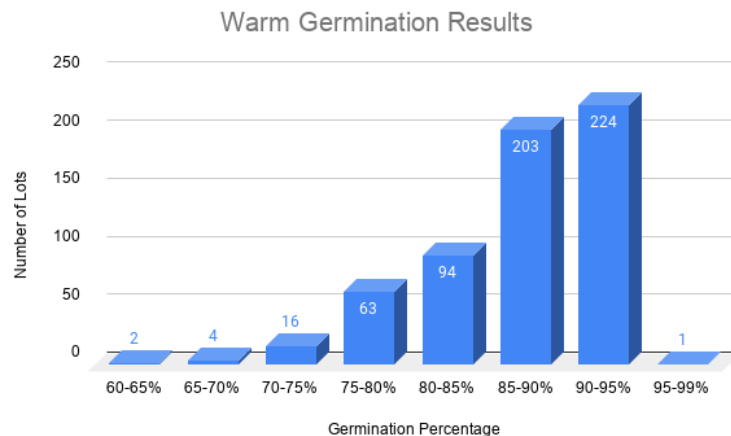
The length of time to complete testing of cotton seed samples varied due to workload and COVID-19 response. Even with those issues, sample were completed within a 5 to 14 -day interval depending on planting date within the lab.

**According to the AOSA Rules for Testing Seed, warm germ tests for cotton are 12 days and cool test are 7 days. In the NC Seed Lab, if germination numbers were in the mid 90's or higher on count #1, the test was finalized. Any other tests finalized earlier than 12 days was due to sample having no more germination potential.**

Cotton seed samples were collected during the period of 12/30/2019 through 6/9/20. NCD&CS Plant Industry Division collected samples from 607 cotton seed lots in the state. The cotton seed samples were tested and separated into germination percentages for both warm and cool germination. The following information provides a breakdown of the results:

## Warm Germination Results

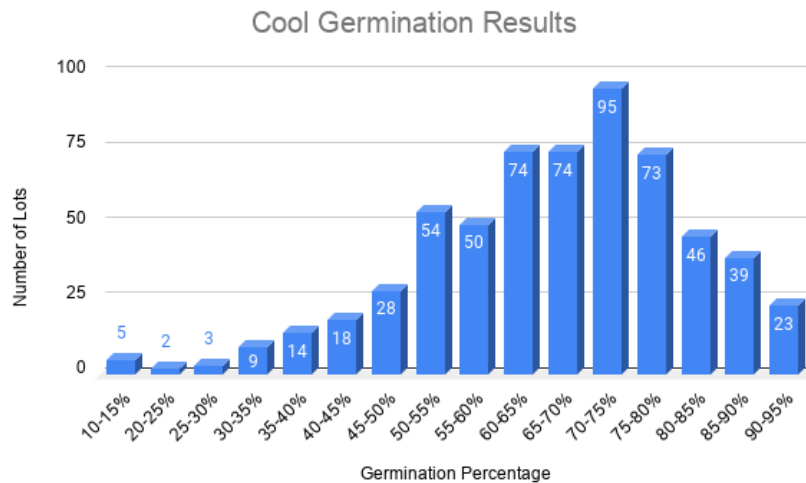
- 2 Lots = 60-65%
- 4 Lots = 65-70%
- 16 Lots = 70-75%
- 63 Lots = 75-80%
- 94 Lots = 80-85%
- 203 Lots = 85-90%
- 224 Lots = 90-95%
- 1 Lot = 95-99%



The results indicated that 97% of 2020 cotton seed distributed in North Carolina had a warm germination percentage of 75% or above.

### Cool Germination Results

- 5 Lots = 10-15%
- 2 Lots = 20-25%
- 3 Lots = 25-30%
- 9 Lots = 30-35%
- 14 Lots = 35-40%
- 18 Lots = 40-45%
- 28 Lots = 45-50%
- 54 Lots = 50-55%
- 50 Lots = 55-60%
- 74 Lots = 60-65%
- 74 Lots = 65-70%
- 95 Lots = 70-75%
- 73 Lots = 75-80%
- 46 Lots = 80-85%
- 39 Lots = 85-90%
- 23 Lots = 90-95%



Based on these results, 87% of cotton seed samples collected in NC for the 2020 growing season had a cool germination percentage of 50 or above.

### Stop Sales Issued

The North Carolina Department of Agriculture and Consumer Services issued 13 stop sales due to violations on cotton seed sampled in 2020. The violations were due to the following:

- Germination Test Date Expired- 6 samples
- Germination did not meet the 80% threshold as labeled on the product – 7 samples

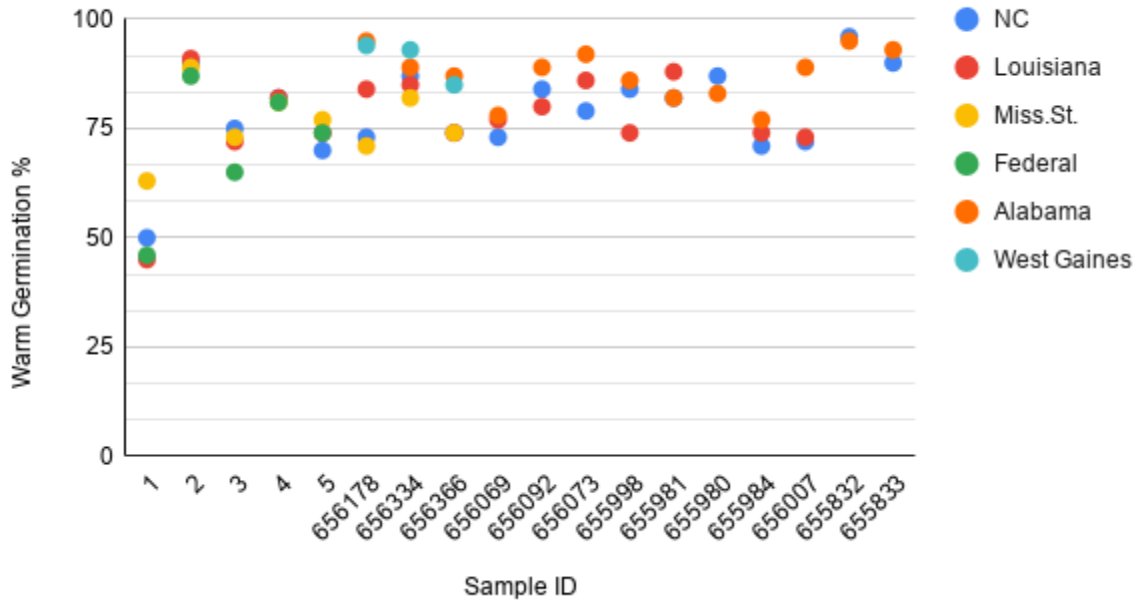
## NC Seed Lab Comparison Samples

The NC Seed Lab submitted seed samples to outside labs as a check and balance for the 2020 cotton seed testing season. Five samples were submitted to three outside labs by NCSU staff as part of their research. The NC Seed Lab submitted thirteen additional samples to outside labs with the results below with Warm /Cool germination for each:

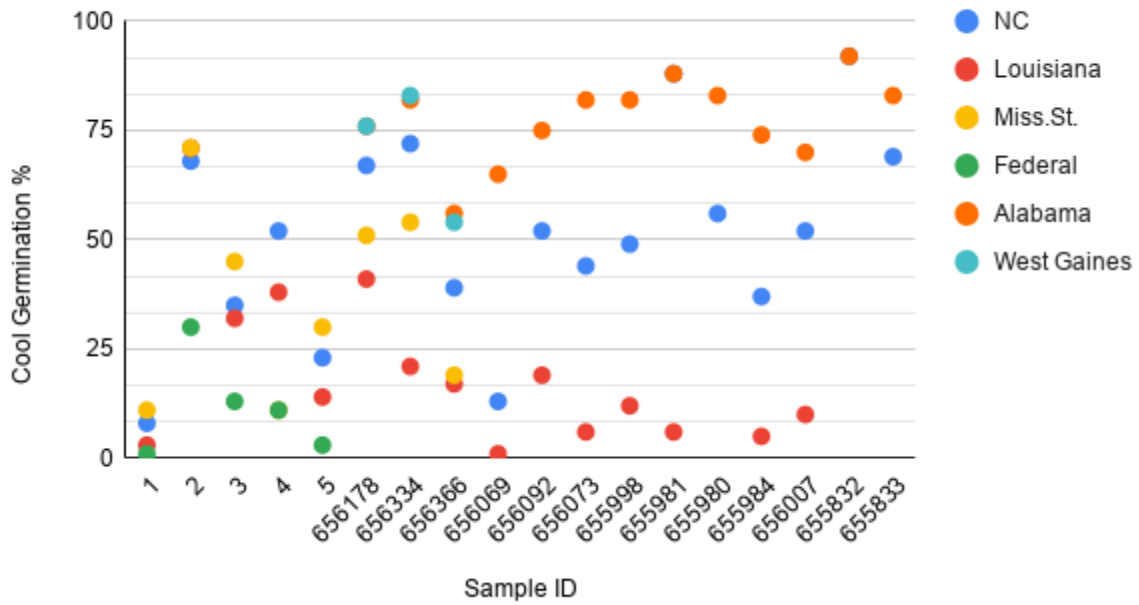
<b>Sample</b>	<b>Lab</b>	<b>NC</b>	<b>Louisiana</b>	<b>MS State</b>	<b>Federal</b>	<b>Alabama</b>	<b>West Gaines</b>
NCSU-1		50/8	45/3	63/11	46/1		
NCSU-2		90/68	91/71	89/71	87/30		
NCSU-3		75/35	72/32	73/45	65/13		
NCSU-4		82/52	82/38	81/11	81/11		
NCSU-5		70/23	74/14	77/30	74/3		
656178		73/67	84/41	71/51		95/76	94/76
656334		87/72	85/21	82/54		89/82	93/83
656366		74/39	74/17	74/19		87/56	85/54
656069		73/13	77/1			78/65	
656092		84/52	80/19			89/75	
656073		79/44	86/6			92/82	
655998		84/49	74/12			86/82	
655981		82/88	88/6			82/88	
655980		87/56				83/83	
655984		71/37	74/5			77/74	
656007		72/52	73/10			89/70	
655832		96/92				95/92	
655833		90/69				93/83	

**\* Some samples submitted for testing to outside labs never provided results due to COVID-19 Shutdowns in that state.**

## Warm Germination - Comparison of Lab Results



## Cool Germination - Comparison of Lab Results



## **Cotton Seed Shipment Notification Results**

NCDA&CS Plant Industry Division developed an online portal for reporting cotton seed shipments into North Carolina for the 2020 Planting Season. Additionally, our staff also allowed companies to provide lot shipments into a spreadsheet to us if that would work better for their business.

Based on our records, we received advanced notifications along with some non-notifications:

- **Cotton Notifications Received** (Through online portal or directly from Seed company)  
Total # Received: 257  
Duplicate notifications (that were sampled): 21  
Not sampled (sold or moved prior to inspection) : 31
- **Notified by warehouse or dealer location**  
Total #: 127  
Duplicate Lot # (that were sampled): 21  
Not sampled: 4
- **No Notifications Received**  
Total #: 257  
Duplicate Lot # (that were sampled): 38  
Not sampled: 6

**In 2020, North Carolina received advanced notification from companies, warehouse storage locations and dealers totaling approximately 60% of the seed we located in the state. The remaining 40% of cotton seed sampled were discovered by inspectors while inspecting at various locations. Additionally, there may be cotton seed imported into North Carolina of which we were never aware.**

## **NCDA&CS Cotton Seed Testing Portal**

NCDA&CS implemented an online Cotton Testing Portal so NC cotton growers and other interested parties could check the current status and testing results of cotton seed lots sampled within the state. Based on system records, the portal was accessed 612 times by various farmers, companies, university/extension and NCDA&CS staff. The portal was accessed by the following categories:

- NC Farmers: 89,
- Seed Companies: 59
- University/Extension staff -4 institutions
- NCDA&CS staff

## **2020 Cotton Seed Imports into North Carolina**

NCDA&CS Plant Industry notification records show that a significant amount of cotton seed entered North Carolina in preparation for the 2020 cotton growing season. Division records of cotton seed shipments in 2020 for which NCDA sampled represented 115,975 bags. If we assume 5 planted acres per bag, cotton seed sampled by this program could represent 579,875 acres. This total exceeds the estimated planted acreage in North Carolina for 2020 which is not surprising given returns, replants, seed which may have been planted in Virginia or South Carolina, etc. While it would be impossible to now how many actual planted acres in North Carolina were planted to seed tested in this program, it could be assumed to be a large percentage.

## **Conclusion**

The North Carolina Department of Agriculture and Consumer Service – Plant Industry Division would like to express our appreciation to all the companies and their NC distributors for the cooperation on the pilot program in 2020. Our goal in working together on this pilot program was to ensure all North Cotton Producers obtained quality cotton seed for the 2020 crop production year.

These results could not have been accomplished had it not been for the dedication of the NCDA&CS Seed and Fertilizer Specialists and the NC Seed Lab staff.

**Phil Wilson**