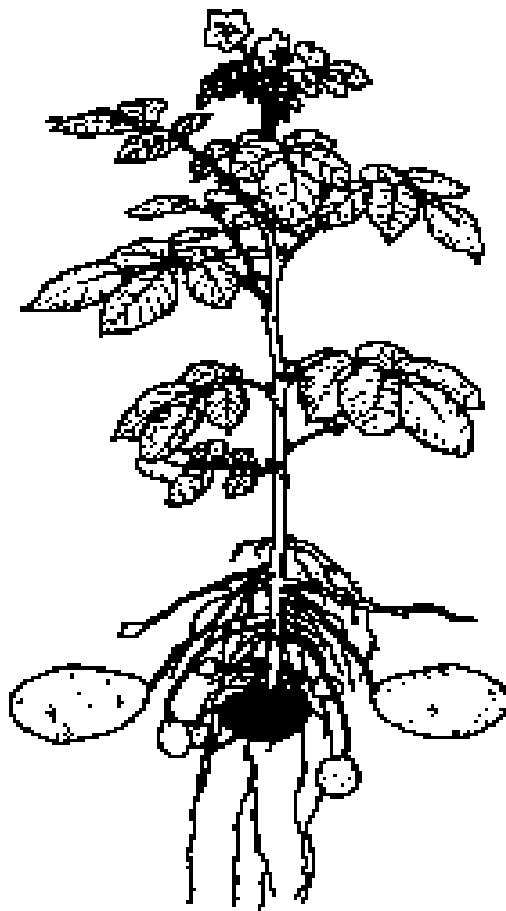


NC STATE UNIVERSITY

NORTH CAROLINA

POTATO VARIETY TRIALS REPORT

1999



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I. OBJECTIVE:

This project is part of the USDA Cooperative States Research Extension and Education Service NE 184 Regional Potato Variety Development and Evaluation Project. The objective of this project is to evaluate and identify advanced clones and new potato varieties for use by potato growers in the eastern US. The objective of our breeding program's effort is to determine which of these clones are suitable for use by the North Carolina Potato industry.

II. RESEARCH STATION AND ON-FARM COOPERATORS LOCATIONS:

Peanut Belt Research Station (NC Dept. of Agriculture and Consumer Sciences), Lewiston, NC (Bertie Co.)

Tidewater Research Station (NCDA&CS)/Vernon G. James Research and Extension Center, (NCSU), Plymouth, NC (Washington Co.)

Bright Farms, Weeksville, NC (Pasquotank Co.)

Cooper Farms, Gumneck, NC (Tyrrell Co.)

McCotter Farms, Vandemere, NC (Pamlico Co.)

Tull Hill Farms, Kinston, NC (Lenoir Co.)

COOPERATING COUNTY EXTENSION AGENTS:

Tom Campbell, Elizabeth City, Pasquotank Co.

Bill Jester, Kinston, Greene, Lenoir, and Wayne Co's.

Fred May, Bayboro, Pamlico Co.

Richard Rhodes, Columbia, Tyrrell Co.

III. PROCEDURES:

SITE, SOIL TYPE, PLANTING AND HARVEST DATES

<u>Site</u>	<u>Soil Type</u>	<u>Planting Date</u>	<u>Harvest Date</u>	<u>Days to Harvest</u>
Bright's	Elkton silt loam	Mar 8	Jun 24	108
Cooper's	Weeksville black silt loam	Mar 10	Jun 23	105
McCotter's	Yonges loamy fine sand	Mar 4	Jun 18	102
Tull Hill	Goldsboro loamy sand	Feb. 17	Jun 10	113
TRS/VGJREC	Portsmouth fine sandy loam	Mar 17-19	Jun 28-30, Jul 6, 8	101-105, 111
PBRS	Norfolk loamy sand	Mar 2	Jun 21	104

EXPERIMENTAL DESIGN: All trials were planted in a randomized complete block design with 4 replications except the unreplicated preliminary evaluation trial, which had only one plot per clone. Twenty clones were evaluated in all grower trials except the Tull Hill trial where 12 clones were evaluated. Plots consisted of 1 row with 28 hills spaced 9 inches apart. Spacing between rows was 38 inches at all sites, except PBRS which was spaced at 36 inches. Fertilizer, weed and pest control practices for on-farm trials were in accordance with those practiced by the cooperators. This information is contained in Appendix 1.

The trials were dug using a single-row digger and hand harvested. All grower trials were graded using a portable Lockwood Grader which sorts to two grades: $1 \geq 1 \frac{1}{2}$ "; and $2 < 1 \frac{1}{2}$ ". The TRS/VGJREC and PBRS trials were graded to three classes: $1 > 1 \frac{7}{8}$ "; $2 > 1 \frac{1}{2}$ to $1 \frac{7}{8}$ "; and $3 \leq 1 \frac{1}{2}$. Culls were picked out and weighed separately in all trials. Each clone was evaluated for tuber quality and appearance during grading, and while specific gravity measurements were being conducted. A description of the rating scales is in Appendix 2. After grading and weighing, 40 marketable tubers (10 tubers/replication) were randomly sampled from each entry. The tubers were cut and scored for the presence or absence of hollow heart, heat necrosis and any other internal defects. Subsamples of marketable tubers were also taken from each replication and bulked by entry for specific gravity readings and chipping tests. Specific gravity was determined using the weight-in-air/weight-in-water method, and chip colors were provided by Wise Foods, Berwick, PA.

IV. RESULTS:

Weather Summary

Eastern North Carolina's potato growing season started better than average during 1999 and many growers planted one or two weeks earlier than normal. Rainfall levels in the east were less than average at all sites from March to May (see Appendix 3). Temperatures were cooler for much of the season with hotter, drier conditions intensifying during the first part of July. Because it remained dry throughout the season, size and overall yields were down. This was especially true for the trials located at the TRS/VGJREC.

Trial Summaries

A total of 174 clones were evaluated by the program during 1999. The data for each trial are summarized in Tables 1-10. Each table has two parts, the first being devoted to yield information and specific gravity readings (a) and the second (b) providing potato plant and tuber quality parameters, and chip color scores. The main problems occurring this season were sun scald, and secondary sprouting. Both were probably related to the lack of adequate moisture in the soil. Both McCotter's and Hill's sites had noticeably higher specific gravities compared to the at other locations. This is attributed to vine killing at these sites. A brief summary of each trial follows.

A. On-Farm Trials

Bright Variety Trial (Tables 1a and 1b)

The 8 highest yielding clones ranked in decreasing order by marketable yield were R17-7; Atlantic; R17-106; Snowden; B0564-9; AF875-15; LaChipper; and B0564-8. None of these clones yielded significantly less than Atlantic which had an average marketable yield of 321 cwt/A. Marketable yields for this group ranged from 324 cwt/A to 278 cwt/A. Clones with specific gravities similar to Atlantic (1.077) were B0178-34 (258 cwt/A; 1.078) and B0564-8 (278 cwt/A; 1.075). Clones with exceptional chipping scores were: B0178-34 (2.0); B0564-8 (2.5); B0766-3 (2.5); ND2470-27 (2.5); NY115 (2.0); NY120 (2.0); and Snowden (2.0). B0564-8 had the best appearance score. In the plot as a whole, only low levels of disease were noted. However, a moderate amount of sun scald, growth cracks and secondary sprouts were noted. Atlantic had greater than 25% HN while the highest specific gravity clone in this trial, B0178-34, had only 5%.

Cooper Variety Trial (Tables 2a and 2b)

Several clones in this trial out-yielded Atlantic which produced an average marketable yield of 335 cwt/A. In order of decreasing marketable yield, these clones were: AF1569-2; AF1437-1; Superior; Keuka Gold (NY101); B0766-3; B0178-34; and R17-106. B0178-34 had the highest specific gravity at 1.076, while Atlantic was 1.072. Both of these clones had 3 out of 40 tubers with heat necrosis, but the severity in Atlantic was slightly greater. Clones with exceptional chipping scores were: AF1668-60; B0178-34; B0564-8; ND2470-27; NY112 and Snowden. Most clones in this trial were rated as good in appearance, but two, B0564-8 and R17-7, were rated exceptional.

McCotter Variety Trial (Tables 3a and 3b)

The five highest yielding clones in order of decreasing marketable yield were: AF875-15; AF1437-1; Snowden, B0564-9, and NY112. In this trial, the best chippers were: Atlantic (2.5); B0178-34 (2.5); B0564-9 (2.5); B1415-7 (2.5); NY112 (2.0); and Snowden (2.0). B0564-8 and B0564-9 had the best tuber appearance scores. Atlantic had the highest specific gravity at 1.094 and the next closest was B0564-9 at 1.092. The gravities at this site were higher due to vine killing prior to harvest.

Tull Hill Farms Red Variety Trial (Tables 4a and 4b)

This is our grower-managed red variety trial. Irrigation was applied as needed and the trial was vine-killed 5 days before harvest. Red LaSoda, Chieftain, Red Gold, and Nordonna were the top yielding clones. In terms of appearance Nordonna, Red Cloud, and ND3574-5R were exceptional. Cherry Red was also attractive and well yielding. ND5084-3R was an exceptionally large, round clone. However, excessive skinning and air cracking may limit its acceptance.

B. Research Station Trials

All of the trials at the TRS/VGJREC were severely moisture stressed as is evidenced by the low yields and low water deficit (-5.8" to May).

VGJREC/TRS Round White Trial. (Tables 5a and 5b)

The top performing clones in this trial were: Atlantic; B1240-1; B1415-7; B1591-1; and S195-6. B1591-1 (109% of Atlantic) had the highest gravity at 1.088 and no internal defects Atlantic had a gravity of 1.083 and over 21% HN. S195-6 was the highest yielding variety at 223 cwt/A but it didn't chip and it's appearance was poor. LaChipper, a popular variety in Florida, had many mishappen tubers with deep eyes. While eight varieties had overall appearance scores of 7 or better, only B1065-51 had a score of 8. This clone yielded 92% of Atlantic, was earlier, and produced attractive netted tubers with no internal defects that chipped one point better than Atlantic. S28-2 was the only yellow fleshed clone in this trial. Its yield was equivalent to that of Atlantic and specific gravity was 1.075.

VGJREC/TRS NE-184 White Trial. (Tables 6a and 6b)

The five highest yielding clones in terms of marketable yield were: Atlantic; Kennebec; Keuka Gold (NY101); NY112; and Snowden. Only three varieties Atlantic, B0766-3, and Snowden were assigned overall appearance scores of seven. The two highest yielding clones, Keuka Gold (NY101) and NY112, were fairly attractive and chipped better than Atlantic. Keuka Gold (NY101) expressed HN in 20% of the sampled tubers. B01450-10 had the highest specific gravity at 1.080, compared to Atlantic and Snowden at 1.078. Atlantic had a 45% incidence of HN with a mean severity score of 7.

VGJREC/TRS NE-184 Red Trial. (Tables 7a and 7b)

The four highest yielding red clones in terms of marketable yield were: B0852-7; Chieftain; ND5084-3R; and Red LaSoda. All clones in this trial received appearance scores between 5 and 7. Of the eleven varieties, six had a score of 7. These were: B0811-4; B1145-2; Cherry Red; ND5084-3R; Nordonna; and Red Gold. Chieftain had a slight heat necrosis problem. ND5084-3R was the highest yielding clone in the trial. As in the Tull Hill Trial, it produced exceptionally round tubers though not as large. B0811-4 and B1145-2 were two small specialty type clones which were attractive. Both had relatively high gravities.

VGJREC/TRS NE-184 Russet Trial. (Tables 8a and 8b)

B1409-2 was the highest yielding clone at 150.9 cwt /A. B9922-11 had the highest specific gravity reading at 1.081. Unfortunately, it also had a considerable amount of heat necrosis. The only russet in this trial to have an appearance rating better than 5 was B1463-1 which was assigned a 7. Every clone in this trial had a considerable number of misshapen culls.

PBRs Trial. (Tables 9a and 9b)

These trials were conducted at the PBRs in sandy soils with irrigation. Seven of the 27 clones evaluated were yellow-fleshed. The five highest yielding varieties in order of marketable yield were: Snowden; R17-7; MSE048-2Y; Atlantic; and NY120. Atlantic had the highest gravity at 1.075, while MSA091-1, MSB073-2, MSNT-1, and NY123 had gravities of roughly 1.071. None of the samples taken from this trial chipped well, but the best chippers were Superior and NY120 with scores of 3 compared to Atlantic with 4. The only variety to exceed an overall appearance rating of 7 was MSE149-5Y with a rating of 8. However, ten others received a rating of 7.

Unreplicated Trial (Tables 10a and b)

This trial is designed to allow a first look at varieties produced by other institutions. Those clones with promising attributes such as high yield, exceptional appearance or high disease resistance will then be evaluated the following year in a replicated trial.

Overall Summary

The round white clones from the USDA with the most potential are: B0564-8, B0564-9, and B0178-34. All three of these clones have good gravities, low incidence of internal defects, and are generally uniform in size. Clones from the University of Maine with the most promise are AF875-15, AF1569-2, and AF1437-1. Unfortunately in all three of these cases yield in relation to Atlantic was variable and the gravities were consistently lower than Atlantic. On a more positive note these clones had no

incidence of heat necrosis. The clones from Cornell University with the best results in our trials were R17-7, R17-106, Keuka Gold (NY101), NY112. Of these four, Keuka Gold (NY101) was the only yellow flesh and it had yields above Atlantic. The other three clones all chipped better than Atlantic though gravities in all cases were lower. In reference to the red varieties Nordonna, Cherry Red, and ND5084-3R have shown the most promise. All three clones typically produce large tubers. Even though ND5084-3R has a skinning problem vine kill and earlier harvest could minimize this problem.

ACKNOWLEDGMENTS

Without the assistance of the growers, county extension agents and NCDA&CS TRS, and PBRS staff, this work could not be conducted. We are grateful for their continued support and assistance. Wise Foods, Berwick, PA is also gratefully acknowledged for conducting chip tests. Hettema Seed Potatoes, and CanAgrico provided unrestricted gifts for variety evaluation which benefited the project. Seed for the trials were provided by: Dr. Dave Douches, Michigan State University; Dr. Kathleen Haynes, USDA/ARS, Beltsville, MD; Dr. Richard Novy, North Dakota State University; Dr. Robert Plaisted, Cornell University; Dr. Greg Porter, University of Maine, Porter Seed Farm; Dr. Al Reeves, University of Maine, Aroostook Farm; and from Hettema Seed Potatoes, and CanAgrico. This project is funded in part by The North Carolina Potato Growers Association and the USDA CSREES. Their continuing support is much appreciated.

Appendix 1: LAND MANAGEMENT CONDITIONS

Location: Bright Farms, Weeksville, Pasquotank Co., NC

Trial Design: Randomized complete block, four replications
Plot Dimensions: Twenty 21' rows at 38' row spacing, 28 hills per row
Seedpiece Treatment: None
Weed Control: Sencor 1 lb/A, Dual 1 1/2 pts/A
Fertilizer: 850 lbs, 18-9-9 broadcast
Insect Control: Admire 1.3 oz/1,000 ft row
Disease Control: None
Irrigation: None
Vine Kill: None

Location: Durwood Cooper Farms, Gum Neck, Tyrrell Co., NC

Trial Design: Randomized complete block, four replications
Plot Dimensions: Twenty 21' rows at 38' row spacing, 28 hills per row
Seedpiece Treatment: None
Weed Control: Sencor 1 1/2 lbs/A
Fertilizer: 850 lbs, 20-12-24 broadcast
Insect Control: Furadan 1 qt/A, Asana 8oz/A, Provado 3.75 oz/A
Disease Control: Diathane 1 qt/A, Bravo 1pt/A
Irrigation: None
Vine Kill: None

Location: McCotter Farms, Bayboro, Pamlico Co.

Trial Design: Randomized complete block, four replications
Plot Dimensions: Twenty 21' rows at 38' row spacing, 28 hills per row
Seedpiece Treatment: None
Weed Control: Sencor 1 lb/A, Dual 1 1/2 pts/A
Fertilizer: 209lbs, 23-0-28 broadcast;
400lbs, 60-40-60 in furrow;
45lbs, 60-40-60 side dressed
Insect Control: N/A
Disease Control: N/A
Irrigation: None
Vine Kill: N/A

Location: Tull Hill Farms, Kinston, Lenior Co., NC

Trial Design: Randomized complete block, four replications
Plot Dimensions: Twenty 21' rows at 38' row spacing, 28 hills per row
Seedpiece Treatment: None
Weed Control: Dual 3pt/A, Lexone 1.3lb/A
Fertilizer: 1400lbs, 14-7-14 Super Rainbow broadcast
Insect Control: N/A
Disease Control: N/A
Irrigation: N/A
Vine Kill: N/A

Location: Tidewater Research Station, Plymouth, Washington Co., NC

Trial Title: Round White Variety Trial

Trial Design: Randomized complete block, four replications

Plot Dimensions: Twenty 21' rows at 38' row spacing, 28 hills per row

Seedpiece Treatment: None

Weed Control: Dual 8E 2pt/A, Sencor 75DF 1lb/A

Fertilizer: 600lbs, 17-17-17 broadcast;

150lbs, 34-0-0 broadcast;

300lbs, 9-23-30 broadcast

Insect Control: Thiodan 3EC 1pt/A, Guthion 2L 1.5pt/A

Disease Control: Bravo 720, 1.5 pt/A

Irrigation: None

Vine Kill: None

Location: Tidewater Research Station, Plymouth, Washington Co., NC

Trial Title: NE-184 White Variety Trial

Trial Design: Randomized complete block, four replications

Plot Dimensions: Twenty 21' rows at 38' row spacing, 28 hills per row

Seedpiece Treatment: None

Weed Control: Dual 8E 2pt/A, Sencor 75DF 1lb/A

Fertilizer: 600lbs, 17-17-17 broadcast;

150lbs, 34-0-0 broadcast;

300lbs, 9-23-30 broadcast

Insect Control: Thiodan 3EC 1pt/A, Guthion 2L 1.5pt/A

Disease Control: Bravo 720, 1.5 pt/A

Irrigation: None

Vine Kill: None

Location: Tidewater Research Station, Plymouth, Washington Co., NC

Trial Title: NE-184 Red Variety Trial

Trial Design: Randomized complete block, four replications

Plot Dimensions: Twenty 21' rows at 38' row spacing, 28 hills per row

Seedpiece Treatment: None

Weed Control: Dual 8E 2pt/A, Sencor 75DF 1lb/A

Fertilizer: 600lbs, 17-17-17 broadcast;

150lbs, 34-0-0 broadcast;

300lbs, 9-23-30 broadcast

Insect Control: Thiodan 3EC 1pt/A, Guthion 2L 1.5pt/A

Disease Control: Bravo 720, 1.5 pt/A

Irrigation: None

Vine Kill: None

Location: Tidewater Research Station, Plymouth, Washington Co., NC

Trial Title: NE-184 Russet Variety Trial

Trial Design: Randomized complete block, four replications

Plot Dimensions: Twenty 21' rows at 38' row spacing, 28 hills per row

Seedpiece Treatment: None

Weed Control: Dual 8E 2pt/A, Sencor 75DF 1lb/A

Fertilizer: 600lbs, 17-17-17 broadcast;

150lbs, 34-0-0 broadcast;

300lbs, 9-23-30 broadcast

Insect Control: Thiodan 3EC 1pt/A, Guthion 2L 1.5pt/A

Disease Control: Bravo 720, 1.5 pt/A

Irrigation: None

Vine Kill: None

Location: Peanut Belt Research Station, Lewiston, Bertie Co., NC

Trial Design: Randomized complete block, four replications

Plot Dimensions: Twenty-eight 21' rows at 36' row spacing,
28 hills per row

Seedpiece Treatment: None

Weed Control: Lorox 50 DF 2.5 lbs/A and Dual 8E 2.2 pt/A

Fertilizer: 10-10-10 at 1200lbs/A broadcast and
34-0-0 at 200lbs/A broadcast

Insect Control: Thiodan 3EC at 1.33qt/A

Disease Control: None

Irrigation: 0.5 in/A May 10, 1999; 0.5 in/A May 26, 1999;
in/A May 28, 1999; 1.0 in/A June 1, 1999;

1.0 in/A June 4, 1999; 1.0 in/A June 11, 1999

Vine Kill: None

Location: Tidewater Research Station, Plymouth, Washington Co., NC

Trial Title: Unreplicated Variety Trial

Trial Design: Randomized complete block

Plot Dimensions: Twenty 21' rows at 38' row spacing, 28 hills per row

Seedpiece Treatment: None

Weed Control: Dual 8E 2pt/A, Sencor 75DF 1lb/A

Fertilizer: 600lbs, 17-17-17 broadcast;

150lbs, 34-0-0 broadcast;

300lbs, 9-23-30 broadcast

Insect Control: Thiodan 3EC 1pt/A, Guthion 2L 1.5pt/A

Disease Control: Bravo 720, 1.5 pt/A

Irrigation: None

Vine Kill: None

Appendix 2: STANDARDIZED NE184 RATING CODES FOR PLANT AND TUBER CHARACTERISTICS

Tuber Color

1. purple
2. red
3. pink
4. dark brown
5. brown
6. tan/light brown
7. buff
8. white
9. cream

Tuber Texture

1. partial russet
2. heavy russet
3. moderate russet
4. light russet
5. netted
6. slight net
7. moderately smooth
8. smooth
9. very smooth

Tuber Cross-section

1. very flat
2. —
3. flat
4. —
5. intermediate/oval
6. —
7. mostly round
8. —
9. very round

Tuber Skin Set

1. very poor
- 2
3. poor
- 4
5. fair
- 6
7. good
- 8
9. excellent

Tuber Shape

1. very round
2. mostly round
3. round to oblong
4. mostly oblong
5. oblong
6. oblong to long
7. mostly long
8. long
9. cylindrical

Tuber Eye Depth

1. -
2. deep
3. +
4. -
5. medium
6. +
7. -
8. shallow
9. +

Tuber Size (GCY Scale)

1. small
2. -
3. small-medium
4. -
5. medium
6. -
7. medium-large
8. -
9. large

Tuber Appearance

1. very poor
2. —
3. poor
4. —
5. fair
6. —
7. good
8. —
9. excellent

Tuber Disease Rating

1. very severe
- 2.
3. severe
- 4.
5. moderate
6. borderline
7. slight
8. very slight
9. none

Plant Type

1. decumbent-poor canopy
2. decumbent-fair canopy
3. decumbent-good canopy
4. spreading-poor canopy
5. spreading-fair canopy
6. spreading-good canopy
7. upright-poor canopy
8. upright-fair canopy
9. upright-good canopy

Plant Disease and Pollution Reaction

1. Dead
2. -
3. severe
4. +
5. moderate
6. +
7. -
8. slight
9. none

Maturity

1. —
2. early
3. +
4. —
5. medium
6. +
7. —
8. late
9. +

Appendix 3: REGIONAL WEATHER DATA

Pamlico Co.

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Ann</u>
Mean Temp	50.18	49.54	50.52	N/A	68.69	75.70	N/A	—	—	—	—	—	58.93
Min Temp	36.94	37.00	36.74	N/A	58.52	66.97	N/A	—	—	—	—	—	47.23
Max Temp	63.42	62.07	64.29	N/A	78.87	84.43	N/A	—	—	—	—	—	70.62
Precip	3.09	1.41	5.26	N/A	3.09	2.65	N/A	—	—	—	—	—	15.50
30yr precip	4.30	4.24	3.91	3.21	4.62	5.38	7.02	6.56	5.13	3.02	3.15	3.68	54.22
Precip Dev	-1.21	-2.83	1.35	N/A	-1.17	-2.73	N/A						

Tyrrell Co.

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Ann</u>
Mean Temp	43.78	46.00	45.66	57.75	64.10	72.14	79.00	77.45	—	—	—	—	60.74
Min Temp	32.50	34.94	33.91	46.00	55.46	64.67	71.50	67.70	—	—	—	—	50.83
Max Temp	55.06	57.06	57.41	69.50	72.75	79.62	86.50	87.20	—	—	—	—	70.64
Precip	2.53	1.80	2.47	1.80	5.21	4.93	2.40	3.58	—	—	—	—	24.72

Pasquotank Co.

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Ann</u>
Mean Temp	48.10	47.37	48.64	62.18	67.24	74.50	N/A	—	—	—	—	—	58.01
Min Temp	37.10	36.74	37.21	50.40	57.39	67.20	N/A	—	—	—	—	—	47/67
Max Temp	59.10	58.04	60.35	73.97	77.10	81.80	N/A	—	—	—	—	—	68.39
Precip	3.81	1.63	3.40	2.58	2.23	3.35	N/A	—	—	—	—	—	17.00
30yr precip	4.18	3.68	4.05	3.04	4.23	4.29	5.67	5.45	4.50	3.38	2.91	3.10	48.48
Precip Dev	-0.37	-2.05	-0.65	-0.46	-2.00	-0.94	N/A						

Bertie Co.

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Ann</u>
Mean Temp	47.23	46.27	48.40	61.53	67.61	73.97	N/A	—	—	—	—	—	57.50
Min Temp	36.35	34.82	36.39	50.47	56.65	64.27	N/A	—	—	—	—	—	46.49
Max Temp	58.10	57.71	60.42	72.60	78.58	83.67	N/A	—	—	—	—	—	68.51
Precip	6.29	2.71	3.64	1.93	3.04	3.37	N/A	—	—	—	—	—	20.98

Washington Co.

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Ann</u>
Mean Temp	48.84	47.96	49.81	62.27	67.68	75.18	N/A	—	—	—	—	—	58.62
Min Temp	36.81	36.46	36.65	49.17	56.00	65.07	N/A	—	—	—	—	—	46.69
Max Temp	60.87	59.46	62.97	75.37	79.35	85.30	N/A	—	—	—	—	—	70.55
Precip	3.49	2.32	3.00	1.66	3.20	2.94	N/A	—	—	—	—	—	16.61
30yr precip	4.22	3.80	4.32	3.37	4.72	4.74	6.08	4.44	4.58	3.36	3.12	3.31	51.06
Precip Dev	-0.75	-1.52	-1.32	-1.71	-1.5	-1.80	N/A						

Lenior Co.

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Ann</u>
Mean Temp	N/A	48.30	50.00	63.60	68.70	75.10	N/A	—	—	—	—	—	61.14
Min Temp	N/A	21.90	25.80	40.50	48.10	58.50	N/A	—	—	—	—	—	38.96
Max Temp	N/A	74.40	79.00	88.20	88.50	99.00	N/A	—	—	—	—	—	85.82
Precip	N/A	2.59	2.09	3.50	2.73	4.86	N/A	—	—	—	—	—	15.77

SOURCE: NCDA via National Climate Center, National Oceanic and Atmospheric Administration.