

NC STATE UNIVERSITY

NORTH CAROLINA

POTATO VARIETY TRIALS REPORT

2000

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I. OBJECTIVE:

This research is part of the USDA Cooperative States Research Extension and Education Service NE 184 Regional Potato Variety Development and Evaluation Project. The objective of the NE-184 project is to develop high yielding, disease resistant tablestock and chipping potato varieties which can be used by potato growers in the eastern US. The specific objective of the NC State breeding program's effort is to determine which of these clones are most suitable for use by the North Carolina and Southeastern US Potato industry.

II. RESEARCH STATION AND ON-FARM COOPERATOR LOCATIONS:

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 SPECIALISTS:

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 7	Jun 21	106
Cooper's	Weeksville black silt loam	Mar 3	Jun 20	109
McCotter's	Yonges loamy fine sand	Mar 2	Jun 13	103
Tull Hill	Rains loamy sand	Feb. 25	Jun 15	110
TRS/VGJREC	Portsmouth fine sandy loam	Mar 13,14	Jun 27,28, Jul 5,7	106,114-116

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. Sixteen 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. Weed and pest control practices for on-farm trials were in accordance with those practiced by the cooperators (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's $\leq 1\ 1/2$ "; and 2's $> 1\ 1/2$ ". The TRS/VGJREC trials were graded to five classes: 1's $< 1\ 7/8$ "; 2's $> 1\ 7/8$ to $2\ 1/2$ "; 3's $> 2\ 1/2$ to $3\ 1/4$ "; 4's $> 3\ 1/4$ to 4 "; 5's > 4 ". Culls were removed 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 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. Chip ratings were done at the TRS/VGJREC and by Wise Foods, Berwick, PA.

IV. RESULTS:

Weather Summary

Eastern North Carolina's potato season started with good conditions putting us slightly ahead of planting and on par with last year. Temperatures both this year and last year were similar. While the precipitation totals were also similar, the distribution of rain during the 2000 growing season reduced the size of tubers in most of our trials because less rainfall accumulated during the bulking period.

Trial Summaries

A total of 156 clones were evaluated by the program during the 2000 season. The data for each trial is summarized in Tables 1-11. 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. This year chip evaluations were conducted at Wise Foods and the VGJREC. Each of these are presented in the table. Chipping at the TRS/VGJREC was done at least once within 48 hrs of harvest but in many cases varieties were chipped and rated two or three times and Table b shows a mean score. To transport the potatoes for chip samples at Wise Foods in Berwick, PA the potatoes (5 tubers per sample) were placed in a plastic mesh bag and loaded on the back of a truck in route to Wise. In most cases, chip evaluations were conducted within 72-96 hrs of digging.

A. On-Farm Trials

Bright Variety Trial (Tables 1a and 1b)

Total yields for this trial were higher in 2000 compared to 1999. However, marketable yields were only slightly down. For marketable yield, seven clones performed better than Atlantic (245 cwt/A), those clones were: B0564-9 (328 cwt/A), B0766-3 (281 cwt/A), AF875-15 (270 cwt/A), Nordonna (268 cwt/A), Colombo (267 cwt/A), B0564-8 (263 cwt/A), and B0178-34 (250 cwt/A). The primary problems observed in trial were misshapes and soft rot. The increased presence of soft rot in the tubers may have been the result of heavy rains just before harvest. In addition there was a high percentage of pick-outs for Arnova, CK87-1008, and Maranca most of which was because of secondary sprouting. The specific gravities this year were comparable to last year and only one clone, B0178-34 had a gravity (1.080) greater than Atlantic (1.078). Nine varieties from this trial were chipped and all except (Superior - 3.3 TRS, 4.0 Wise) scored better than or equal to Atlantic (2.7 TRS, 3.5 Wise). Appearance-wise, the three most attractive clones were the white clones B0564-8 and B0564-9, and the red variety Nordonna.

Cooper Variety Trial (Tables 2a and 2b)

Both total and marketable yields were up from last year for Cooper's trial. The marketable yield for Atlantic was 394 cwt/A. Of the fifteen remaining varieties, five had greater yields. These were: AF875-15 (435 cwt/A), Snowden (434 cwt/A), AF1569-2 (430 cwt/A), B0564-8 (415 cwt/A), and B0564-9 (410 cwt/A). Only one clone, B0178-34 (1.077), exceeded the specific gravity of Atlantic (1.073). Fifteen varieties were chipped from Cooper's trial excluding, B1752-5, a yellow flesh clone. Atlantic at the TRS had a chip score of 2.3. Five other varieties had better chip scores than Atlantic, these were: Snowden (1.7), B0766-3 (1.7), B0178-34 (2.0), AF875-15 (2.0), and AF1856-1 (2.0). Wise chip scores while generally within one point of the TRS scores yielded slightly different results. Atlantic had a Wise score of 1.5 and only one clone (B0766-3) had a score equal to Atlantic while all others were lower. Three varieties were given exceptional tuber appearance scores: B0564-8, B0564-9, and B1752-5.

McCotter Variety Trial (Tables 3a and 3b)

Overall, yields were up by almost 100 cwt/A for total yield and by about 80 cwt/A for marketable yield compared to 1999. This year three clones had yields greater than Atlantic (298 cwt/A). They were: B0564-8 (332 cwt/A), B0178-34 (324 cwt/A), and Nordonna (308 cwt/A). Atlantic had the highest gravity in this trial at 1.076. Additional clones with specific gravities suitable for chipping were: AF875-15, B0178-34, B0564-8, B0564-9, and B0766-3 Chipping was done on thirteen varieties. Atlantic had a score of 1.0 at the TRS and a 2.0 from Wise. The TRS ratings yielded seven other clones which were equal to Atlantic: AF1437-1, AF1565-12, AF1569-2, AF875-15, B0178-34, B0766-3, and Snowden. Wise rated only two other clones scores equal or greater than Atlantic: B0178-34 (1.5), and B0766-3 (1.5). Only two clones had appearance scores of exceptional (B0564-8 and B0564-9). All other clones were rated lower.

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

Yields for our Tull Hill Farms variety trial were reduced this year. This is because prior to emergence 4 inches of rain washed out the rows in our test plot and when the seed pieces were covered again they were covered too deep. The delayed emergence and the greater potential for seed piece loss most likely contributed heavily to the decreased yields in this plot. Our standard for red trials, Chieftain, yielded 169 cwt/A and only two other varieties B1758-4 (181 cwt/A), and Nordonna (179 cwt/A) produced greater yields. In terms of appearance only Nordonna was given a rating of exceptional, three others were given a rating of good and they are: B1758-3, ND3574-5R, and Redsen.

B. Research Station Trials

We had few problems on the Tidewater Research Station in 2000. Wire grass control was however a problem primarily in replication one of the NE-184 trial and Round White trial 1. Also, this site was drier than our on-farm sites. This year we split our round white variety test into two trials to make the number of clones per trial more manageable. Also we established another trial, the HZPC/Nitrogen Rate Trial to determine the optimal nitrogen fertilization rates for HZPC potatoes and promising varieties.

Round White Trial 1. (Tables 5a and 5b)

Of the twenty-eight clones in this trial, fourteen clones produced marketable yields greater than Atlantic which produced 142 cwt/A. The top five clones were: AF1938-3 (212 cwt/A), NY112 (208 cwt/A), AF1569-2 (200 cwt/A), B1497-22 (193 cwt/A) and, Eva^{*} (190 cwt/A). Scores for the twelve clones chipped in this trial were relatively poor. For the TRS ratings, Atlantic scored a 5 which is unacceptable and 2 for Wise which is excellent. All clones chipped at the TRS, with the exception of AF1437-1, were rated better than Atlantic. In contrast, Atlantic was one of the higher rated chips for Wise, four other clones also received the rating of excellent from Wise. These were: B1339-2, Eva (formerly NY103), NY115, and NY120. Clones with the highest incidence of heat necrosis were Atlantic (53%), B1624-22 (38%), Keuka Gold (45%), and NY112 (50%).

Round White Trial 2. (Tables 6a and 6b)

In this trial, Atlantic had a marketable yield of 134 cwt/A. Out of the other nineteen clones, five produced equal or greater yields: MSE048-2Y (163 cwt/A), Pungo (155 cwt/A) MSF373-8 (136 cwt/A), T126-11 (137 cwt/A), and ARS6498-5 (135 cwt/A). Five clones had specific gravity measurements equal to or better than Atlantic (1.073). These are: B1591-1 (1.082), B1425-9 (1.076), MSF373-8 (1.074), MSG274-3 (1.073), and Russet Norkota #3117 (1.073). Nine clones had high incidence of heat necrosis. These were: Atlantic (70%), ND5822C-7 (60%), MSE048-2Y (55%), MSA091-1 (53%), Green Mountain (35%), MSB106-7 (35%), ARS6498-5 (33%), Pungo (33%), and T126-11 (20%). Seven varieties were chipped and Atlantic was rated as excellent (2.0) at the TRS and marginal (4.0) by Wise. For Wise all of the remaining clones chipped better, the highest being Snowden rated as excellent (2.0). For the TRS chip samples no clones had ratings better than Atlantic though three others did have scores equal to that of Atlantic, those were:

B1591-1, MSA091-1, and Snowden. In terms of overall appearance no clones in this trial were assigned the rating of excellent however three (B1591-1, Snowden, and T28-1) were designated as good.

NE-184 White Trial. (Tables 7a and 7b)

Seven out of a total of nineteen clones in the trial had yields greater than Atlantic (194 cwt/A). The seven clones were: NY112 (229 cwt/A), W1242 (185 cwt/A), Kennebec (189 cwt/A), AF1437-1 (165 cwt/A), W1313 (163 cwt/A), Snowden (162 cwt/A), and AF1615-1 (143 cwt/A). The only clone in this trial with a greater gravity than Atlantic (1.072) was W1313 at 1.077. For overall appearance the highest score given was good. The clones with this rating were: AF1437-1, Atlantic, Eva, and NY112. The clones with high incidence of heat necrosis were Atlantic (58%), AF1775-2 (35%), AF1475-20 (28%), AF1758-7 (23%), and NY112 (23%). For chipping Atlantic was rated 3 for the TRS and 4 for Wise. Of the remaining twelve clones, eight had chip scores equal or better to that of Atlantic in the TRS test and ten in the Wise test. Those clones rated for chipping as excellent (2.0) or exceptional (1.0) in either test are as follows: AF1475-20 (2.0 TRS, 2.5 Wise), AF1668-60 (2.0 both), B0766-3 (1.0 TRS, 2.5 Wise), Eva (2.0 TRS, 3.5 Wise), NY115 (3.0 TRS, 2.0 Wise), W1242 (2.0 TRS, 3.0 Wise), and W1313 (4.0 TRS, 2.0 Wise).

NE-184 Red Trial. (Tables 8a and 8b)

Overall yields were up this year from last. Chieftain had a marketable yield of 181 cwt/A, the only clone with a comparable yield was ND5084-3R at 180 cwt/A. Last year we made note of this clone for its exceptionally large tubers and high yield. None of the clones we evaluated this year were very appealing, however one clone from Colorado, CO86218-2, did have an dark red skin but it also had high levels of heat necrosis. Clones in this trial with high levels of heat necrosis were: ND5084-3R (68%), Chieftain (63%), CO86218-2 (28%), and B1491-5 (15%).

HZPC/Nitrogen Rate Trial. (9a and 9b)

This trial, conducted with additional support from HZPC America's Corp., was designed to compare the nitrogen response of six different clones: Atlantic; B0564-8; Ceasar; Fabula; Mondial; and Superior. Nitrogen was applied at three levels (0lbs/A, 75lbs/A, and 150lbs/A). Based on a soil test the recommendations for nitrogen application were between 120 and 160lbs/A. The experimental design was a split-plot, with nitrogen rate as the main plot and clone as the subplot.

Results were variable and it is difficult to draw nitrogen response conclusions based on this one test. From highest to lowest the mean marketable yields of the clones across nitrogen rates were: B0564-8 (117 cwt/A); Atlantic (112 cwt/A); Fabula (107 cwt/A); Superior (107 cwt/A); Ceasar (91 cwt/A); and Mondial (37 cwt/A). Fabula had the highest percentage of its yield in the number 3 size class with 21% occurring in this class. But it also had the lowest overall total yield (136 cwt/A). In terms of specific gravity the clone means were: Atlantic (1.072); Superior (1.069); B0564-8 (1.065); Ceasar (1.056); Mondial (1.049); and Fabula (1.047). Based on appearance Atlantic B0564-8 and Superior looked the best with scores 7 (good) Ceasar and Fabula both received scores of 5 (fair) and Mondial was given a score of 1 (poor). Mondial's low appearance score can be attributed to the number of culls. fifty seven percent was culled due primarily to heat sprouts. The next highest percentage of culls was Atlantic with 11% culls due primarily to misshapes and soft rot.

Unreplicated Trial (Tables 10a and 10b)

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 were: B0564-8, B0564-9, B0178-34, and B0766-3. The yield was off for B0766-3 and the appearance for B0178-34 and B0766-3 were only better than fair but they both chipped well and had high gravities in all trials. The clones B0564-8 and B0564-9 both had exceptional appearances overall and low incidence of disease and internal defects. From the University of Maine the clones showing the most promise were AF875-15, AF1569-2, and AF1437-1. Yields overall were comparable to Atlantic and these clones had no heat necrosis, however gravities were lower than Atlantic. From Cornell University the clones that performed best were Eva, Keuka Gold, and NY112. However Keuka Gold and NY112 suffer from heat necrosis so they may not be suitable for North Carolina. Gravities for all three were lower than Atlantic but yields were higher overall. For the red varieties Nordonna in all trials did well with the exception of the NE-184 Red Variety Trial. Typically it produces a very round large tuber, and has a good skin set.

V. ACKNOWLEDGMENTS

Without the assistance of the growers, county extension agents and NCDA&CS TRS 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. HZPC Americas Corp., 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; Mr. Bryce Farnsworth, North Dakota State University; Dr. Robert Plaisted, Cornell University; Dr. Greg Porter, University of Maine; Dr. Al Reeves, University of Maine; and from HZPC Americas Corp., 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.

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Appendix 1: LAND MANAGEMENT CONDITIONS

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

Trial Design: Randomized complete block, four replications
Plot Dimensions: Sixteen 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: 1000 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: Sixteen 21' rows at 38' row spacing, 28 hills per row
Seedpiece Treatment: None
Weed Control: Sencor 1 1/2 lbs/A
Fertilizer: 850 lbs, 24-12-19 broadcast, 2000 lb Lime/A
Insect Control: Thimet
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: Sixteen 21' rows at 38' row spacing, 28 hills per row
Seedpiece Treatment: None
Weed Control: Sencor 1/3 to 1/2 lb/A
Fertilizer: 209 lbs, 23-0-28 broadcast;
400 lbs, 60-40-60 in furrow;
45 lbs, 60-40-60 side dressed
Insect Control: Thimet 20 CR 9 lb/A
Disease Control: N/A
Irrigation: None
Vine Kill: Diquat

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

Trial Design: Randomized complete block, four replications
Plot Dimensions: Twelve 21' rows at 38' row spacing, 28 hills per row
Seedpiece Treatment: None
Weed Control: 1/3 lb metribuzin, Dual 1.5pt/A pre-emergence
Fertilizer: 1400lbs, 14-4-14 broadcast
Insect Control: N/A
Disease Control: N/A
Irrigation: None
Vine Kill: N/A

Appendix 1: LAND MANAGEMENT CONDITIONS (Cont'd.)

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

Trial Title: Round White Variety Trial One

Trial Design: Randomized complete block, four replications

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

Seedpiece Treatment: None

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

Fertilizer: 550 lbs, 17-17-17 broadcast;
200 lbs, 34-0-0 broadcast

Insect Control: Admire 2F 17 oz/A

Disease Control: Bravo 720, 1.5 pt/A

Irrigation: None

Vine Kill: None

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

Trial Title: Round White Variety Trial Two

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 II 8E 2pt/A, Sencor 75DF 1lb/A

Fertilizer: 550 lbs, 17-17-17 broadcast;
200 lbs, 34-0-0 broadcast

Insect Control: Admire 2F 17 oz/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: Nineteen 21' rows at 38' row spacing, 28 hills per row

Seedpiece Treatment: None

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

Fertilizer: 550 lbs, 17-17-17 broadcast;
200 lbs, 34-0-0 broadcast

Insect Control: Admire 2F 17 oz/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: Thirteen 21' rows at 38' row spacing, 28 hills per row

Seedpiece Treatment: None

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

Fertilizer: 550 lbs, 17-17-17 broadcast;
200 lbs, 34-0-0 broadcast

Insect Control: Admire 2F 17 oz/A

Disease Control: Bravo 720, 1.5 pt/A

Irrigation: None

Vine Kill: None

Appendix 1: LAND MANAGEMENT CONDITIONS (Cont'd.)

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

Trial Title: HZPC/Nitrogen Rate Trial

Trial Design: Split block, four replications, three Nitrogen rates

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

Seedpiece Treatment: None

Weed Control: Sencor 75 DF 1 lbs/A and Dual II 8E 2.2 pt/A

Fertilizer: See report under B. Research Station Trials HZPC

Insect Control: Admire 2F 17 oz/A

Disease Control: Bravo 720 1.5 pt/A

Irrigation: None

Vine Kill: None

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

Trial Title: Unreplicated Variety Trial

Trial Design: Randomized complete block

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

Seedpiece Treatment: None

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

Fertilizer: 550 lbs, 17-17-17 broadcast;

200 lbs, 34-0-0 broadcast

Insect Control: Admire 2F 17 oz/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	44.08	50.4	58.21	61.88	N/A	N/A	N/A	—	—	—	—	—	53.63
Min Temp	32.26	36.24	44.65	50.1	N/A	N/A	N/A	—	—	—	—	—	40.81
Max Temp	55.9	64.55	71.77	73.67	N/A	N/A	N/A	—	—	—	—	—	66.45
Precip	4.97	1.81	3.42	7.26	N/A	N/A	N/A	—	—	—	—	—	17.46
30yr precip	4.3	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	0.67	-2.43	-0.49	N/A	N/A	N/A	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	38.88	45.11	49.9	56.94	68.53	76.28	75.85	—	—	—	—	—	56.71
Min Temp	26.95	34.36	37.4	47.35	58.44	68.19	69.2	—	—	—	—	—	46.6
Max Temp	50.81	55.86	62.4	66.53	78.63	84.38	82.5	—	—	—	—	—	66.82
Precip	5.33	2.13	0.62	4.67	3.64	3.79	0.75	—	—	—	—	—	20.93
30yr precip	3.95	3.64	4.08	3.43	4.41	4.67	6.39	5.82	4.39	3.31	3.00	3.21	50.30
Precip Dev	1.38	-1.51	-3.46	1.24	-0.87	-0.88	-5.64						

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	41.91	43.33	54.71	58.65	70.27	76.07	76.27	—	—	—	—	—	62.27
Min Temp	32.61	33.6	43.83	49.87	60.68	67.93	68.64	—	—	—	—	—	53.33
Max Temp	51.21	53.07	65.58	67.43	79.87	84.29	83.89	—	—	—	—	—	71.3
Precip	3.4	0.75	1.21	4.37	7.72	7.53	2.62	—	—	—	—	—	27.6
30yr precip	4.18	3.68	4.05	3.04	4.23	4.29	5.67	5.45	4.5	3.38	2.91	3.1	48.48
Precip Dev	-0.78	-2.93	-2.84	1.33	3.49	3.24	-3.05						

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	43.91	48.55	55.85	60.62	N/A	N/A	N/A	—	—	—	—	—	52.23
Min Temp	32.72	35.34	43.19	47.83	N/A	N/A	N/A	—	—	—	—	—	39.9
Max Temp	54	61.76	68.52	73.4	83.77	88.77	87.1	—	—	—	—	—	64.39
Precip	4.32	1.61	3.51	5.38	N/A	N/A	N/A	—	—	—	—	—	14.82
30yr precip	4.22	3.8	4.32	3.37	4.72	4.74	6.08	4.44	4.58	3.36	3.12	3.31	51.06
Precip Dev	0.1	-2.19	-0.81	2.01	N/A	N/A	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	N/A	N/A	N/A	64.33	72.28	74	—	—	—	—	—	69.7
Min Temp	N/A	N/A	N/A	N/A	47.23	58.03	61.81	—	—	—	—	—	54.98
Max Temp	N/A	N/A	N/A	N/A	81.43	86.52	86	—	—	—	—	—	84.46
Precip	2.08	1.75	3.66	6.62	1.45	3.01	2.14	—	—	—	—	—	20.7
30yr precip	4.24	3.75	3.97	3.49	4.55	5.12	6.09	5.97	4.86	3.05	2.79	3.50	51.20
Precip Dev	-2.16	-2.00	-0.31	3.11	-3.10	-2.11	-3.95						

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