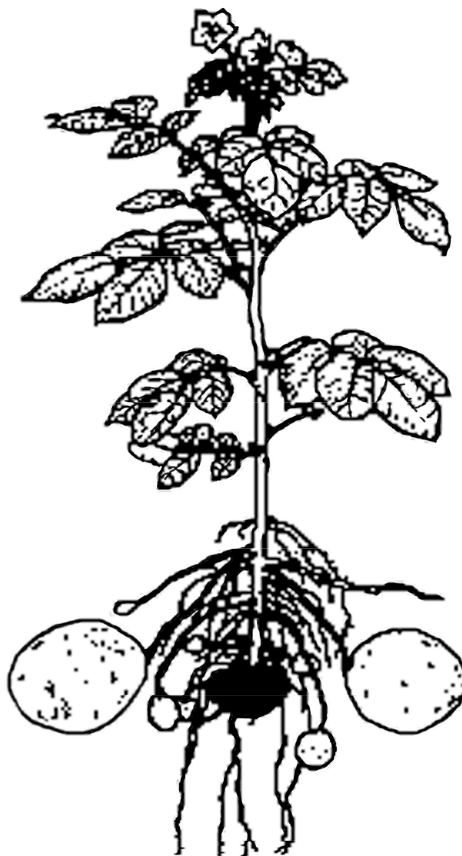


NC STATE UNIVERSITY

NORTH CAROLINA POTATO VARIETY TRIAL AND BREEDING REPORT

2006



G. C. Yencho, Associate Professor and
Leader, Potato and Sweetpotato Breeding
and Genetics Programs
Department of Horticultural Science
North Carolina State University
214A Kilgore Hall, Raleigh NC, 27695
Tel: 919-513-7417
Fax: 919-515-2505
Email: Craig_Yencho@ncsu.edu

M. E. Clough, Researcher, Potato Breeding and
Genetics Program
Department of Horticultural Science
North Carolina State University
Vernon G. James Research and Extension Center
207 Research Station Rd., Plymouth NC 27962
Tel: 252-793-4428 Ext 156
Fax: 252-793-5142
Email: Mark_Clough@ncsu.edu

Web Address: <http://www.ces.ncsu.edu/plymouth/hort/potato/index.html>

I. OBJECTIVES:

Our research is conducted in collaboration with the USDA Cooperative States Research Extension and Education Service (CSREES) NE1014 Multi-state Potato Variety Development and Evaluation Project. The overall objective of the NE1014 Project is to develop high yielding, disease and insect resistant, table- and chip-stock potato varieties for potato growers in the eastern US. The objective of the NC State University variety development and breeding program is to develop germplasm, and select and release new potato varieties that are suitable for use by North Carolina growers, and the southeastern US potato industry in general.

II. PROJECT SUMMARY

Our program focuses on two areas: the development of new potato germplasm and varieties through collaborative early-generation breeding and selection projects with the USDA-ARS, Cornell University and the University of Maine; and the evaluation of preliminary and advanced breeding clones for adaptation to NC from a wide range of potato breeding programs in the US and Canada.

Our in-house efforts to develop varieties in North Carolina begin with crossing in the greenhouses at the NC Department of Agriculture and Consumer Services Tidewater Research Station/NC State University Vernon G. James Research and Extension Center (TRS/VGJREC) in Plymouth, NC. Subsequent planting, selection and advancement to 6-hill, 20-hill, and 60-hill plots depend on relative performance at each of these stages over a period of four years. Clones that survive the first four cycles of selection are then entered into preliminary and advanced yield trials conducted at the TRS/VGJREC and on-farm as well as maintained in a 160 hill plot for increase. This year, 7,950 single-hills were planted and 168 clones were selected averaging a 2.1% selection rate. Out of the 344 clones in our 6-hill plots, 57 were selected for future evaluation. In the 20-hill plots, 21 clones were planted with 7 being selected for further evaluation. In our 60-hill plots, 12 clones were planted and 6 were selected. An additional 189 4-hill plots from the University of Maine (UM) were planted, with 11 being selected. These will be advanced to our 20-hill plots next year.

In our 13 yield trials, we evaluated 210 preliminary and advanced clones. The evaluations were conducted either on-farm, and/or at the TRS/VGJREC. We typically evaluate advanced clones at more than one site in NC. The results of the yield trials are summarized later in this report, and in Tables 1-13. Each table has two parts, the first (a) being devoted to yield information, specific gravity measurements, and chip color scores, and the second (b) providing potato plant and tuber quality characteristics. This report can also be viewed and downloaded at our website <http://www.ces.ncsu.edu/plymouth/hort/potato/index.html>.

2005 Promising Lines:

Chip-stock clones

Harley Blackwell.

Developed by: USDA-ARS

Released: 2003

trials evaluated: 40 since(1995)

Skin Color: Tan to Light Brown

Flesh Color: White

Historical Data:

Maturity: medium

% Standard (Atlantic): MKTB YLD 104%

Specific Gravity: 1.071

Chip score: 2.1 (good)

Overall Appearance: 7 (good)

Other Attributes or Comments: This variety stands out because its yield is equal to Atlantic, it is very attractive, resistant to IHN, and typically has low incidence of other internal defects. It is primarily a chip-stock potato, but its SG and appearance are also suitable for table-stock use.

Ivory Crisp.

Developed by: USDA-ARS & Univ Idaho

Released: 2002

trials evaluated: 5 since(2003)

Skin Color: White

Flesh Color: White

Historical Data:

Maturity: medium

% Standard (Atlantic): MKTB YLD 88%

Specific Gravity: 1.077

Chip Score: 3.0 (fair)

Overall Appearance: 6 (better than fair)

Other Attributes or Comments: The specific gravity of this clone has consistently been similar to Atlantic and has not expressed IHN in our trials.

Table-stock and specialty-type clones

Adirondack Blue.

Developed by: Cornell Univ.

Released: 2003

trials evaluated: 3 since(2005)

Skin Color: Purple

Flesh Color: Purple

Historical Data:

Maturity: medium

% Standard (Chieftain): MKTB YLD 61%

Specific Gravity: 1.065

Skin Texture: Moderately Smooth

Overall Appearance: 5 (fair)

Other Attributes or Comments: This variety despite its name has a purple flesh color in NC that is very attractive. Unlike All Blue, that often has a white cortical ring, the flesh color of this clone is solid and dark.

B1816-5.

Developed by: USDA-ARS

Released: N/A

trials evaluated: 19 since(2000)

Skin Color: Purple

Flesh Color: Yellow (YF2)

Historical Data:

Maturity: early to mid

% Standard (Chieftain): MKTB YLD 82%

Specific Gravity: 1.067

Skin Texture: Moderately Smooth

Overall Appearance: 6 (better than fair)

Other Attributes or Comments: This clone has tended to be small to medium in size and it is very tasty. Its dark purple skin and yellow-flesh make it a very attractive specialty-type potato. B1816-5 is scheduled for release in 2007.

MSL228-1.

Developed by: Michigan State Univ.

Released: N/A

trials evaluated: 1 since(2006)

Skin Color: Cream and Purple

Flesh Color: White

Historical Data:

Maturity: mid to late

% Standard (Chieftain) : MKTB YLD 55%

Specific Gravity: 1.076

Skin Texture: Smooth

Overall Appearance: 8 (better than good)

Other Attributes or Comments: Even though this is the first year we have evaluated this clone we were struck by this clone's distinct coloration and smoothness.

NY129.

Developed by: Cornell Univ.

Released: N/A

trials evaluated: 18 since(2000)

Skin Color: Red

Flesh Color: White

Historical Data:

Maturity: mid to late

% Standard (Chieftain): MKTB YLD; 94%

Specific Gravity: 1.057

Skin Texture: Slight Net

Overall Appearance: 6 (better than fair)

Other Attributes or Comments: The strengths of this clone are in its marketable yield and conformity. It consistently produces very round, medium-sized potatoes. The slightly netted skin that this clone has may limit its utility as a table-stock red.

NY136.

Developed by: Cornell Univ.

Released: N/A

trials evaluated: 5 since(2005)

Skin Color: Dark Red

Flesh Color: White

Historical Data:

Maturity: medium

% Standard (Chieftain): MKTB YLD 92%

Specific Gravity: 1.062

Skin Texture: Moderately Smooth

Overall Appearance: 7 (good)

Other Attributes or Comments: We have only seen this clone for 2 years, but have been impressed by its rich dark red skin. Darker and smoother than NY129, this clone may have a place in Southern growing conditions where the warmer temperatures often cause our reds to washout.

Vivaldi.

Developed by: De ZPC (now HZPC)

Released: 1999

trials evaluated: 11 since(2001)

Skin Color: Buff

Flesh Color: Yellow (YF1)

Historical Data:

Maturity: mid to late

% Standard (Atlantic): MKTB YLD 93%

Specific Gravity: 1.058

Skin Texture: Smooth

Overall Appearance: 7 (good)

Other Attributes or Comments: This variety tends to be oblong and has excellent culinary qualities. Some IHN has been noted in trials but incidence and severity are typically low.

III. RESEARCH STATION AND ON-FARM COOPERATOR LOCATIONS:

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

Black Gold Farms, Gumneck, NC (Tyrrell Co.)

James Brothers Farms, Weeksville, NC (Pasquotank Co.)

McCotter Farms, Bayboro, NC (Pamlico Co.)

Waters Produce, Chocowinity, NC (Beaufort Co.)

COOPERATING COUNTY EXTENSION AGENTS:

Tom Campbell, Elizabeth City, Pasquotank Co.

Carla Pugh, Columbia, Tyrrell Co.

Bill Ellers & Pete Anderson, Bayboro, Pamlico Co.

Rod Gurganus, Washington, Beaufort Co.

IV. PROCEDURES:

SITE, SOIL TYPE, PLANTING AND HARVEST DATES FOR YIELD TRIALS

| Site | Soil Type | Planting Date | Harvest Date | Days to Harvest |
|-----------------|----------------------------|---------------|-----------------|---------------------------|
| Black Gold | Weeksville black silt loam | Mar 10 | Jun 26 | 108 |
| James Brothers' | Weeksville silt loam | Mar 8 | Jun 26 | 110(100 vine kill) |
| McCotter's | Yonges loamy fine sand | Mar 1 | Jun 20 | 111 |
| Waters' | Goldsboro fine sandy loam | Mar 13 | Jun 19 | 98 |
| TRS/VGJREC | Portsmouth fine sandy loam | Mar 14, 17 | Jul 5, 6, 10-12 | 113, 114, 117 118, 119 |

EXPERIMENTAL DESIGN: All yield trials were planted in a randomized complete block design with 4 replications except the Snack Food Association Trial that had 5 replications and the preliminary evaluation trial, which had only one plot per clone. Twenty-eight clones in two trials were evaluated at Black Gold Farms, sixteen clones were evaluated at McCotter's, twenty clones were evaluated at James Brothers' and six clones were evaluated at Waters' on-farm trial. Plots consisted of one row with 28 hills spaced 9 inches apart. Spacing between rows was 34 inches at Black Gold Farms, 38 inches at McCotter's, 40 inches at James Brother's and Waters', and 38 inches for all trials at the TRS. Weed and pest control practices for on-farm trials were in accordance with those practiced by the cooperators (Appendix 1).

The on-farm trials were dug using a single-row digger and hand harvested. The TRS/VGJREC trials were harvested using a two-row harvester modified to dig one row at a time. McCotter's and Waters' trials were graded using a portable Lockwood Grader which sorts to two grades: A+B's $\geq 1\frac{7}{8}$ "; and C's $< 1\frac{7}{8}$ ". The James Brothers, Black Gold, Snack Food and the TRS/VGJREC trials were graded to five classes: 1's $< 1\frac{7}{8}$ "; 2's $> 1\frac{7}{8}$ to $2\frac{1}{2}$ "; 3's $> 2\frac{1}{2}$ to $3\frac{1}{4}$ "; 4's $> 3\frac{1}{4}$ 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 using standardized NE-1014 rating codes. A description of the rating codes is provided in Appendix 2.

After grading and weighing, 40 marketable tubers (10 tubers/replication) were randomly sampled from each entry, 50 tubers were sampled from the Snack Food Trial. The tubers were cut and scored for the presence of hollow heart, heat necrosis and any other internal defects. A second sub-sample of marketable tubers from each replication was taken 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 evaluations were conducted at the TRS/VGJREC for all trials. Chipping at the TRS/VGJREC was done with in 48 hrs of harvest and again 5 to 7 days later.

V. RESULTS:

Environmental Summary

The potato production season started on time, and it was relatively dry during planting. Temperatures and rainfall were favorable for growth and tuber development throughout the season. Similar to last year, rains were heavy when they came but not overwhelming for the crop. In late June and early July rain activity increased delaying harvest in some locations and increasing levels of soft rot in some plots. Overall, insect pressure was low to manageable. On-station the insect of primary concern was the potato leafhopper. Some Colorado Potato Beetle damage occurred in plots off-station, but our cooperating growers did an excellent job of managing CPB populations.

A. Yield Trials

1. On-Farm Trials

Black Gold Variety Trial (Tables 1a and 1b)

Atlantic, our standard, had a marketable yield of 399 cwt/a three clones had greater marketable yields: Dakota Diamond (465 cwt/a), NYY36-4 (506 cwt/a), and Superior (462 cwt/a). Atlantic had a gravity of 1.078. Four clones: AF2215-1 (1.082), Dakota Diamond (1.081), Snowden (1.079), and Suncrisp (1.084) had higher gravities. All but three clones had a chip score rating of 2 or better for both the 24 to 48 hour chip test and the 5 to 7 day chip test, two clones B0766-3 and NYY36-4 had a chip rating of 1 for both tests. Two clones: B0766-3, and Ivory Crisp had appearance scores of 7 (good), one clone B1829-5 had an appearance score of 8 (better than good). Very few internal defects were noted in this trial. Internal Heat Necrosis (IHN) levels, hollow heart (HH) and vascular ring (VR) discoloration ratings for all clones were 5% or lower. Two clones expressed brown center (BC) at 10% or greater incidence: Dakota Pearl (10%) and Superior (13%). One clone had soft rot levels at 10% (AF2115-1). Other external defects observed in the trial were sunscald, growth cracks, skin blemishes due to Rhizoctonia and misshapes.

Snack Food Association Trial at Black Gold Farms (Tables 2a and 2b)

Atlantic had a marketable yield of 377 cwt/a. Only one clone in this trial, W2324-1 (461 cwt/a), had a statistically significant greater marketable yield than Atlantic. Two clones, Beacon Chipper (378 cwt/a) and NY132 (384 cwt/a) also had greater marketable yields though neither was significant. Atlantic had a gravity of 1.082 and two other clones had equal gravities: A91814-5 and W2324-1. Three clones received chip score ratings of 1 at both the 24 to 48 hour and 5 to 7 day chip tests: CO95051-7W, MSJ147-1, and Snowden. MSJ316-A was the only clone to receive an appearance rating of a 7. Four clones received an appearance score of 6: AF2211-9, Atlantic, MSJ461-1, and NY132. The greatest incidence of IHN was seen in Atlantic (10% with an average severity score of 8.4). Two clones had greater than 10% incidence of BC: AF2211-9 (14%), and Atlantic (18%). Two clones had greater than 10% incidence SR: A91814-5 (14%), and Beacon Chipper (22%). Other external defects observed were: sunscald, misshapes, growth cracks, and skin blemishes due to Rhizoctonia.

James Brother's Variety Trial (Tables 3a and 3b)

This trial was dug in very wet conditions and as such yields may have suffered. Because of the diversity of materials in this trial three yield standards were chosen: Atlantic (round white standard), Chieftain (red standard), and Yukon Gold (yellow flesh standard). In this trial, no clone had a marketable yield significantly greater than the standards, Atlantic (308 cwt/a) and Chieftain (319 cwt/a), though two clones had greater marketable yields: B0766-3 (321cwt/a) and Superior (321 cwt/a). Yukon Gold produced a marketable yield of 267 cwt/a, only one of the other four yellow flesh clones had a greater marketable yield, Vivaldi (283 cwt/a). The specific gravity for Atlantic in this trial was low at 1.067 and only two clones: B1952-2 (1.068) and Yukon Gold (1.067) had an equal or greater gravity, all others were lower. The lower gravities might in part be due to the vine kill applied to the trial at 100 days since killing down vines early has been shown to reduce gravity and the season was conducive to lateness this year. None of the clones had chip score ratings of 1 in both the 24 to 48 hour and the 5 to 7 day tests. Two clones Harley Blackwell and Snowden both rated a 1 in the 24 to 48 hour test and a 2 in the 5 to 7 day test. In terms of overall appearance, one clone received an 8, Dakota Pearl. Clones with an overall appearance score of 7 were: Atlantic, B0766-3, NY136, Vivaldi, and Yukon Gold. No significant incidence of IHN, HH, or VR were recorded in this trial. Atlantic at 20% was the only clone with greater than 10% incidence of BC. Culls were primarily due to sunscald, growth cracks, misshapes, and skin blemishes due to Rhizoctonia.

McCotter Farms Variety Trial (Tables 4a and 4b)

Similar to the James Brother's trial but smaller, this trial contains a wide breadth of materials so three standards were included Atlantic (305 cwt/A), Dark Red Norland (304 cwt/A), and Yukon Gold (251 cwt/A). Two clones, B1806-8 (360 cwt/A) and NY129 (368 cwt/A), had a significantly higher marketable yields than all the standards. Five other clones had greater yields than Atlantic: Harley Blackwell (348 cwt/A), NY126 335 cwt/A), NY136 (331 cwt/A), Superior (319 cwt/A), and Vivaldi (355 cwt/A). All clones had greater marketable yields than Yukon Gold. Atlantic had a specific gravity of 1.085 which is exceptionally high for NC (the second year in a row at this location). While no other clone had a higher gravity than Atlantic two clones had gravities of 1.079 or higher: B1829-5 (1.083) and Yukon Gold (1.079). One clone B0766-3 had chip rating scores of 1 in both the 24 to 48 hour and the 5 to 7 day chip tests. Interestingly Dakota Pearl rated a score of 2 in the 24 to 48 hour test and a 1 in the 5 to 7 day test. Incidence of IHN was 10% or greater in three clones, Atlantic (20% with an average severity score of 7.9), Dakota Pearl (15% with an average severity score of 8.2) and Vivaldi (10% with an average severity score of 8.6). Three clones had incidence of BC at 10% or greater: Atlantic (20%), Superior (20%), and Yukon Gold (10%). The primary external defects in this trial were growth cracks, sunscald, enlarged lenticels, some soft rot and misshapes.

Waters Produce Variety Trial (Tables 5a and 5b)

This trial was a small specialty-type trial focusing on purple skin potatoes. Chieftain was the standard clone even though it is red skinned. Three of the purple skinned clones in this trial also had purple/blue flesh (Adirondack Blue, All Blue, and Purple Majesty). All Blue tends to have a white cortex and moderate to weak blue pigmentation in the medullary tissue, while its skin tends to be netted or flaky. Adirondack Blue has dark purple pigmentation throughout the tuber and has a smooth dark blue skin. Purple Majesty has very dark blue pigmentation throughout the tuber, while its skin is slightly netted and very dark as well. The other purples in the trial included B1816-5 a purple skin yellow flesh clone and B1952-2 a purple skin white flesh clone. Chieftain had a marketable yield of 223 cwt/A, all other clones in this trial yielded considerably less. The three purple/blue fleshed clones were chipped to evaluate their chipping potential. Purple Majesty produced the best blue chips of the three having less browning in the chip. The specific gravity of Purple Majesty was also greater than the other two purple/blue fleshed clones. The only clone to have an overall appearance score of 7 was B1816-5. No significant internal defects were noted. External defects included misshapes, soft rot, growth cracks, silver scurf, and skin blemishes due to Rhizoctonia.

2. TRS/VGJREC Yield Trials

Specialty Crops Variety Trial (Tables 6a and 6b)

This trial, containing 14 entrees, was specifically designed to focus on reds, purples, and other potatoes that we believe may fill various niche markets in our state. All marketable yields in this trial were compared to the standards Chieftain (433 cwt/A) and Yukon Gold (260 cwt/A). None of the clones in the trial exceeded Chieftain's yield and only one yellow flesh clone, B2152-17 (327 cwt/A) had significantly greater yield than Yukon Gold. MSL228-1 was the only clone with an overall appearance score of 8. Three clones, B2152-17, BP153-1, and Yukon Gold had an overall appearance score of 7. Soft rot was the only internal defect expressed in significant quantities: All Blue (10%), B1952-2 (23%), B2152-17 (18%), BP153-1 (18%), Dark Red Norland (13%), MSL228-1 (15%), and Yukon Gold (13%). The most common external defects were growth cracks, sunscald, silver scurf, misshapes, and skin blemishes attributed to Rhizoctonia.

Round White Trial One (Tables 7a and 7b)

Fourteen clones were entered in this trial. Atlantic, the standard, had a marketable yield of 262 cwt/a. Most clones had greater marketable yields and five had significantly higher yields: NC145-1 (408 cwt/A), NYA195-5 (343 cwt/A), NYY36-4 (405 cwt/A), NYY73-49 (376 cwt/A) and Snowden (342 cwt/A). Two clones had gravities greater than Atlantic (1.078); NC145-1 (1.084), and NYY73-49 (1.080). Two clones, NYA195-5 and NYA31-6 had chip

rating scores of 1 in both the 24 to 48 hour and 5 to 7 day chip tests. MSN105-1, and Snowden had chip score ratings of 1 in the 24 to 48 hour test, and a score rating of 2 in the 5 to 7 day test. Four clones received an overall appearance rating score of 7: NC41-1, NYA175-1, NYA195-5, and NYA37-12. One clone, NYA195-5 expressed IHN with 10% incidence with an average severity score of 8.5. Significant levels of BC were found in MSM051-3 (28%). Soft Rot was present in quantities 10% or greater for all but three clones: MSM051-3 (0%), NC145-1 (8%), and NYA31-6 (5%). Common external defects were misshapes, soft rot, sunscald, skin blemishes attributed to Rhizoctonia, and growth cracks.

Round White Trial Two (Tables 8a and 8b)

Of the twenty-two clones in this trial, three (BNC49-1 (395 cwt/A), Harley Blackwell (390 cwt/A), and NY131 (406 cwt/A)) had marketable yields higher than Atlantic (380 cwt/A), though none were significantly greater. Atlantic had a specific gravity of 1.080, one clone, was greater B2414-126 (1.085). Three clones (AF2505-16, B1829-5, and NY131) had chipping scores of 1 in both the 24 to 48 hour and the 5 to 7 day chip tests. Three clones received overall appearance scores of 8 (B2111-80, BNC47-1, and BNC48-1). Four clones received overall appearance rating scores of 7 (Atlantic, B1829-5, B2133-70, and Harley Blackwell). Four clones had 10% or more incidence of IHN. These clones were (in order of percent incidence and average severity score): Atlantic (25% at 8.0), Dakota Pearl (20% at 7.8), BNC49-1 (15% at 8.0), and AF2115-1 (13% at 8.3). Two clones had incidence of HH and BC at greater than 10%: B2122-55 (13% HH and 18% BC), and BNC48-1 (28% HH and 25% BC). Six clones had incidence of SR at levels 10% or greater: AF2685-1 (10%), Atlantic (20%), B1829-5 (15%), B2111-80 (10%), Harley Blackwell (18%), and NY131 (10%). Common defects were misshapes, soft rot, sunscald, growth cracks, and skin blemishes attributed to Rhizoctonia.

Round White Trial Three (Tables 9a and 9b)

Atlantic, our standard, had a marketable yield of 327 cwt/A, and this was the highest marketable yield for the trial. Those clones with higher gravities than Atlantic (1.080) were: AF2215-1 (1.081), AF2291-10 (1.081), and AF2376-5 (1.083). None of the clones in this trial had chip scores of 1 in both the 24 to 48 hour and 5 to 7 day chip tests. Those clones that scored a 1 in the 24 to 48 hour and a 2 in the 5 to 7 day were: Atlantic, B0766-3, and Snowden. Four clones received overall appearance scores of 7 (Amey, B2133-81, B2467-21, and BNC49-2). Two clones expressed IHN at greater than 10%: AF2376-5 (48% with an average severity score of 7.5), and Atlantic (43% with an average severity rating of 8.0). Seven clones expressed levels of SR at greater than 10%: Atlantic (10%), B0766-3 (15%), B1870-3 (13%), Kennebec (20%), Superior (15%), Vivaldi (25%), and Yukon Gold (18%). Common external defects were: misshapes, soft rot, growth cracks, sunscald, and skin blemishes due to Rhizoctonia.

NE-1014 Round White Trial. (Tables 10a and 10b)

Three clones had significantly greater marketable yields than Atlantic (327 cwt/A): B1806-8 (445 cwt/A), NY137 (373 cwt/A), and NYY73-49 (421 cwt/A). Four clones in this trial had gravities greater than or equal to Atlantic (1.081). These were (sorted high to low): AF2376-5 (1.088), NYY73-49 (1.085), AF2291-10 (1.082), and AF2211-9 (1.081). Two clones, AF2291-10 and NY139 (NYY28-9), received a chip rating of 1 (exceptionally bright) in both the 24 to 48 hour and 5 to 7 day chip tests. Four clones (Katahdin, NY139 (NYY28-9), NYY73-49 and Yukon Gold) were rated a 7 for overall appearance. Clones with 10% or greater incidence of IHN were: AF2376-5 (30% at 7.5), Atlantic (15% at 8.5), and Russet Burbank (20% at 8.3). Clones with incidence of SR 10% or greater were: AF2916-1 (13%), Katahdin (13%), Kennebec (13%), NY137 (20%), NYY73-49 (60%), and Shepody (20%). The most common culls were misshapes, sunscald, soft rot, and skin blemishes attributed to Rhizoctonia.

NE-1014 Red Trial. (Tables 11a and 11b)

The standard, Chieftain, had a marketable yield of 445 cwt/A. All other clones had lower marketable yields. Three clones (AF2393-7, B2327-2 and NY136) received an overall appearance score of 7. Chieftain was the only clone to express IHN (45% at 7.3). Four clones had SR at levels of 10% or greater: B1952-2 (20%), Cherry Red (13%), NY136 (15%), and Red LaSoda (10%). Culls were due mostly to soft rot, misshapes, silver scurf, sunscald, growth cracks, and skin blemishes attributed to Rhizoctonia.

Unreplicated Trial. (Tables 12a and 12b)

Ninety-eight clones were evaluated in this trial along with the standards Atlantic, Chieftain, Dark Red Norland, Snowden and Superior. Each 28-hill plot was non-replicated. Clones with promising attributes such as high yield, high specific gravity (for chipping lines), exceptional appearance and/or high disease resistance will be evaluated in following years in replicated trials.

B. Breeding and Early Generation Selection Efforts**1. NCSU/USDA-ARS Early Generation Project. (13a and 13b)**

This project, conducted in cooperation with Dr. Kathleen Haynes, USDA-ARS and funded in part by the USDA-CSREES, is an on-going experiment focused on: 1) developing improved potato breeding and selection methods for the eastern US; and 2) developing improved varieties more suitable to the range of climates and photoperiods found in the Mid-Atlantic and Southeastern U.S. In 2006, the remaining 12 clones in this study were evaluated in North Carolina, and New Jersey. The data for the NC trial is summarized in Table 13. The data from all locations will be summarized and presented elsewhere at the conclusion of the study. Atlantic had a marketable yield of 285 cwt/A. Three clones, B2273-75 (303 cwt/A), B2287-38 (320cwt/A), and Snowden (308cwt/A), had higher yields, though none were significantly greater. Atlantic had a specific gravity of 1.081, while B2290-9 the highest gravity at 1.085. No clones had chip scores of 1 in both the 24 to 48 hour and 5 to 7 day chip tests. Three clones scored 1 in the 24 to 48 hour and 2 in the 5 to 7 day chip tests (Atlantic, B2290-9, and Snowden). Three clones had an overall appearance score of 7 (Atlantic, B2280-86, and B2287-23). Two clones had Incidence of IHN at 10% or greater: Atlantic (45% with an average severity score of 7.5), and B2273-75 (18% with an average severity rating of 7.8). Three clones expressed HH at 10% or greater: Atlantic (13%), B2280-86 (10%), and B2290-9 (20%). Five clones had 10% or greater incidence of BC: Atlantic (13%), B2273-75 (10%), B2280-86 (13%), B2290-9 (30%), and Superior (18%). Soft rot was present in all clones at levels greater than 10% with the exception of B2272-22 (5%), B2280-134 (3%), and Superior (8%). Common External defects included misshapes, growth cracks, sunscald, and soft rot.

2. NCSU Potato Variety Development Efforts

Our efforts to develop varieties in North Carolina begin with selection in a single hill plot in year one, then subsequent advances to 6-hill plots and 20-hill plots in years two and three. Following this, materials are placed in a sixty-hill plot in year four for a final cycle of selection before entering into yield trials. Our single hill materials come from the USDA-ARS and our own crosses made at the TRS. Minitubers are generated in the TRS greenhouses. This year, 7950 single hills were planted and 168 clones were selected or 2.1% selection rate. Out of the 344 clones in our 6-hill plots, 57 were selected for future evaluation. In the 20-hill plots, 21 clones were planted and 7 were selected for further evaluation. Our sixty-hill plots had 12 clones and 6 were carried through for evaluation next year.

V. ACKNOWLEDGMENTS

This work could not be conducted without the assistance of the growers, county extension agents and NCDA&CS TRS staff. We are grateful for their continued support and assistance. Seed for the trials was provided by: Dr. Walter De Jong Cornell University; Dr. Dave Douches, Michigan State University; Dr. Susie Thompson, North Dakota State University; Dr. Zenaida Ganga, University of Maine; and Dr. Kathleen Haynes, USDA/ARS, Beltsville, MD. Also a special thanks goes to Mr. Todd Bradley and the staff at Maine Farmers Exchange, Presque Isle, ME for their efforts to procure small amounts of seed for shipment to NC. And another very special thank you to Childstock Farms, Malone, NY and Tucker Farms , Gabriels, NY, for taking the time to send small amounts of seed. This project is funded in part by The North Carolina Potato Growers Association, the Snack Food Association, the USDA-CSREES and the USDA-ARS. Their continuing support is very much appreciated.

This Page Intentionally Left Blank

Table 1a. Black Gold Farms Variety Trial. Total and marketable yield, percentage of total yield by size class, specific gravity, and chip scores of potato clones harvested 108 DAP¹ at Black Gold Farms, Gum Neck, Tyrrell Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Atl. | Size Distribution by Class ² (% of total yield) | | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ | Chip Color ⁴ | |
|------------------|----------------------|---------------------------|--------|---|-----|-----|-----|-----|-------|--|----------------|----------------|----------------------------------|-------------------------|----------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Culls | | | | | 24 to 48 hrs | 5 to 7 Days |
| AF2115-1 | 403 | 311 | 79 | 8 | 33 | 44 | 1 | 0 | 15 | | 78 | 45 | 1.065 | 3 | 3 |
| AF2215-1 | 393 | 337 | 85 | 4 | 35 | 49 | 1 | 0 | 11 | | 85 | 50 | 1.082 | 1 | 2 |
| Atlantic | 474 | 399 | 100 | 5 | 33 | 49 | 2 | 0 | 11 | | 84 | 51 | 1.078 | 2 | 2 |
| B0766-3 | 413 | 356 | 90 | 12 | 41 | 43 | 1 | 0 | 2 | | 85 | 44 | 1.076 | 1 | 1 |
| B1829-5 | 357 | 312 | 79 | 8 | 47 | 40 | 0 | 0 | 4 | | 87 | 40 | 1.074 | 2 | 3 |
| Dakota Diamond | 526 | 465 | 118 | 5 | 29 | 55 | 4 | 0 | 6 | | 88 | 59 | 1.081 | 2 | 2 |
| Dakota Pearl | 429 | 331 | 83 | 7 | 38 | 40 | 0 | 0 | 16 | | 78 | 40 | 1.068 | 1 | 2 |
| Early Gem | 407 | 136 | 34 | 2 | 24 | 10 | 0 | 0 | 64 | | 34 | 10 | 1.057 | 4 | 5 |
| GemChip | 367 | 293 | 73 | 3 | 26 | 51 | 3 | 0 | 17 | | 80 | 54 | 1.063 | 2 | 2 |
| Harley Blackwell | 458 | 387 | 97 | 7 | 39 | 43 | 1 | 0 | 9 | | 83 | 44 | 1.076 | 2 | 2 |
| Ivory Crisp | 444 | 396 | 100 | 5 | 35 | 48 | 5 | 0 | 7 | | 88 | 53 | 1.076 | 1 | 2 |
| NY36-4 | 559 | 506 | 127 | 4 | 30 | 57 | 3 | 0 | 5 | | 90 | 60 | 1.069 | 1 | 1 |
| Snowden | 440 | 393 | 99 | 7 | 58 | 31 | 0 | 0 | 3 | | 89 | 31 | 1.079 | 2 | 1 |
| Suncrisp | 430 | 373 | 94 | 4 | 39 | 47 | 1 | 0 | 9 | | 87 | 48 | 1.084 | 1 | 2 |
| Superior | 507 | 462 | 116 | 1 | 35 | 55 | 1 | 0 | 8 | | 91 | 56 | 1.073 | 2 | 2 |
| Grand Mean | 439 | 364 | | | | | | | | | | | | | |
| CV(%) | 10.9 | 13.4 | | | | | | | | | | | | | |
| LSD(K=100) | 68.5 | 64.6 | | | | | | | | | | | | | |

¹ DAP= Day After Planting; DVK= Days of Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air / water method.

⁴ Chip Color Ratings conducted by NCSU Potato Breeding Program at TRS/VGJREC:

1= no defects, exceptionally bright; 2= excellent, bright; 3= good, light or golden; 4= dark defects, marginal; 5= not acceptable

Table 1b. Black Gold Farms Variety Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 108 DAP¹ at Black Gold Farms, Gum Neck, Tyrrell Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|-----------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| AF2115-1 | 8 | 8 | 7 | 6 | 9 | 8 | 6 | 7 | 5 | 8 | 7 | 8 | 5 | 3 | 8.8 | 0 | 0 | 0 | 10 | ^SS,MS,STST,SR,RZ |
| AF2215-1 | 7 | 9 | 8 | 6 | 6 | 6 | 6 | 7 | 4 | 6 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 3 | ^SS,SG,GC,MS |
| Atlantic | 8 | 9 | 7 | 5 | 6 | 5 | 7 | 6 | 3 | 7 | 7 | 8 | 6 | 3 | 8.8 | 5 | 0 | 8 | 0 | SS,^GC,MS,SR,RZ |
| B0766-3 | 6 | 8 | 7 | 5 | 6 | 5 | 7 | 7 | 2 | 7 | 6 | 7 | 7 | 3 | 8.8 | 0 | 0 | 0 | 5 | EL,RZ,GC |
| B1829-5 | 5 | 8 | 7 | 4 | 8 | 6 | 6 | 8 | 4 | 8 | 6 | 8 | 8 | 3 | 8.8 | 0 | 3 | 0 | 0 | SS,GC,MS,RZ,SR |
| Dakota Diamond | 7 | 9 | 8 | 7 | 9 | 6 | 4 | 4 | 3 | 6 | 8 | 7 | 4 | 0 | 9 | 5 | 0 | 5 | 0 | SS,HS,MS,RZ,SR,EL,GC |
| Dakota Pearl | 6 | 9 | 8 | 5 | 9 | 8 | 6 | 7 | 3 | 6 | 7 | 7 | 5 | 3 | 8.8 | 5 | 3 | 10 | 3 | SS,^GC,SR,MS |
| Early Gem | 6 | 6 | 8 | 5 | 6 | 1 | 6 | 5 | 7 | 8 | 8 | 8 | 1 | 0 | 9 | 0 | 0 | 0 | 3 | ^MS,^GC,SS |
| GemChip | 7 | 8 | 7 | 6 | 9 | 8 | 6 | 7 | 5 | 8 | 7 | 8 | 5 | 5 | 8.5 | 0 | 0 | 3 | 3 | ^SS,MS,GC |
| Harley Blackwell | 9 | 8 | 7 | 5 | 6 | 5 | 7 | 7 | 2 | 6 | 6 | 6 | 6 | 0 | 9 | 3 | 0 | 3 | 0 | RZ,SS,MS,SC |
| Ivory Crisp | 5 | 9 | 9 | 5 | 9 | 6 | 7 | 7 | 2 | 7 | 7 | 7 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | GC,SS,AC,MS,SR,~DAE |
| NY36-4 | 6 | 8 | 7 | 7 | 6 | 6 | 4 | 7 | 5 | 8 | 9 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 8 | MS,SS,GC,SR,RZ |
| Snowden | 9 | 9 | 6 | 8 | 5 | 5 | 7 | 6 | 2 | 5 | 6 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SS,GC,SR,DAE,DSE |
| Suncrisp | 7 | 9 | 9 | 8 | 6 | 6 | 3 | 6 | 4 | 7 | 7 | 8 | 3 | 0 | 9 | 0 | 0 | 0 | 8 | MS,GC,RZ,SS,HS |
| Superior | 6 | 9 | 8 | 4 | 6 | 6 | 6 | 7 | 3 | 5 | 7 | 8 | 5 | 5 | 8.5 | 0 | 3 | 13 | 3 | SS,GC,CS,MS |

¹ DAP= Day After Planting; DVK= Days of Vine Kill

² See NE 1014 Standard Potato Rating System for to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in A and B size classes. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for comments codes

Table 2a. Snack Food Association Trial. Total and marketable yield, percentage of total yield by size class, specific gravity and chip scores of potato clones of potato clones harvested 108 DAP¹ at Black Gold Farms, Gum Neck, Tyrrell Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Atl. | Size Distribution by Class ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ | Chip Color ⁴ | |
|-------------------|----------------------|---------------------------|--------|---|-----|-----|-----|-----|-------|----------------|----------------|----------------------------------|-------------------------|----------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Culls | | | | 24 to 48 hrs | 5 to 7 Days |
| A91814-5 | 501 | 372 | 100 | 15 | 55 | 19 | 0 | 0 | 11 | 74 | 19 | 1.082 | 2 | 2 |
| AF2211-9 | 405 | 336 | 90 | 6 | 36 | 47 | 0 | 0 | 10 | 83 | 47 | 1.081 | 1 | 2 |
| Atlantic | 435 | 377 | 100 | 5 | 40 | 45 | 1 | 0 | 8 | 86 | 46 | 1.082 | 2 | 3 |
| Beacon Chipper | 443 | 378 | 101 | 6 | 42 | 42 | 1 | 0 | 9 | 85 | 43 | 1.079 | 2 | 2 |
| CO95051-7W | 324 | 269 | 72 | 10 | 51 | 32 | 0 | 0 | 7 | 83 | 32 | 1.078 | 1 | 1 |
| MSJ147-1 | 381 | 322 | 86 | 12 | 60 | 24 | 0 | 0 | 3 | 84 | 24 | 1.078 | 1 | 1 |
| MSJ316-A | 410 | 339 | 91 | 12 | 63 | 19 | 0 | 0 | 5 | 82 | 19 | 1.076 | 2 | 3 |
| MSJ461-1 | 465 | 367 | 98 | 16 | 51 | 27 | 0 | 0 | 6 | 78 | 27 | 1.072 | 2 | 2 |
| NY132 | 461 | 384 | 103 | 13 | 61 | 22 | 0 | 0 | 4 | 83 | 22 | 1.072 | 2 | 2 |
| Snowden | 413 | 348 | 93 | 14 | 59 | 24 | 1 | 0 | 2 | 84 | 25 | 1.080 | 1 | 1 |
| W2133-1 | 419 | 340 | 91 | 13 | 53 | 27 | 0 | 0 | 5 | 80 | 27 | 1.072 | 2 | 2 |
| W2324-1 | 521 | 461 | 124 | 8 | 39 | 49 | 0 | 0 | 4 | 88 | 49 | 1.082 | 2 | 3 |
| Grand Mean | 432 | 358 | | | | | | | | | | | | |
| CV(%) | 9.6 | 12.2 | | | | | | | | | | | | |
| LSD(K=100) | 50.5 | 55.6 | | | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air/water method.

⁴ Chip Color Ratings conducted by the NCSU potato breeding program at the TRS/VGJREC: 1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 2b. Snack Food Association Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 108 DAP¹ at Black Gold Farms, Gum Neck, Tyrrell Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|----------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|--------------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| A91814-5 | 6 | 9 | 8 | 7 | 8 | 8 | 4 | 6 | 5 | 8 | 6 | 8 | 3 | 0 | 9 | 0 | 0 | 0 | 14 | ^SS,^MS,SR,GC, ^culls,v.bright |
| AF2211-9 | 9 | 9 | 8 | 6 | 8 | 7 | 7 | 7 | 2 | 6 | 5 | 8 | 6 | 2 | 8.8 | 2 | 0 | 14 | 2 | SS,^GC,MS,DAE,HN(1-8) |
| Atlantic | 8 | 8 | 7 | 5 | 6 | 5 | 6 | 7 | 2 | 7 | 6 | 8 | 6 | 10 | 8.4 | 0 | 0 | 18 | 2 | ^GC,^SS,MS,RZ,HN(4-8) |
| Beacon Chipper | 8 | 8 | 7 | 6 | 6 | 6 | 6 | 7 | 4 | 8 | 7 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 22 | PTS,MS,SR,SS,GC,RZ,^pears |
| CO95051-7W | 8 | 8 | 8 | 4 | 9 | 7 | 6 | 7 | 3 | 8 | 5 | 5 | 5 | 2 | 8.8 | 0 | 0 | 6 | 2 | SS,^RZ,GC,MS,EL,HN(1-8) |
| MSJ147-1 | 6 | 9 | 8 | 6 | 9 | 6 | 4 | 7 | 3 | 5 | 6 | 7 | 4 | 0 | 9 | 2 | 0 | 0 | 0 | SG,EL,RZ,MS,GC,DAE,CS,bumpy |
| MSJ316-A | 8 | 8 | 6 | 6 | 9 | 7 | 5 | 6 | 4 | 8 | 5 | 7 | 7 | 0 | 9 | 0 | 0 | 2 | 6 | GC,RZ,SS,STST,EL,SG,RZ,MS |
| MSJ461-1 | 8 | 8 | 6 | 6 | 9 | 6 | 5 | 7 | 3 | 8 | 6 | 6 | 6 | 0 | 9 | 0 | 4 | 0 | 0 | MS,SG,^SS,GC,RZ,CS |
| NY132 | 6 | 9 | 8 | 6 | 9 | 7 | 6 | 7 | 4 | 9 | 4 | 8 | 6 | 0 | 9 | 4 | 0 | 2 | 6 | GC,RZ,SS,MS,~pears |
| Snowden | 8 | 8 | 6 | 7 | 6 | 5 | 5 | 7 | 1 | 4 | 4 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | SS,MS,GC,^DAE,^DSE,lumpy |
| W2133-1 | 8 | 7 | 6 | 4 | 6 | 6 | 4 | 7 | 2 | 5 | 6 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 4 | STST,^GC,MS,SS,SR,SG |
| W2324-1 | 8 | 7 | 6 | 5 | 6 | 6 | 5 | 7 | 3 | 5 | 8 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 2 | MS,^GC,STST,PTS |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (50 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 3a. James Brother's Farm Variety Trial. Total and marketable yield, percentage of total yield by size class, specific gravity and chip scores of potato clones harvested 110 DAP¹ (100 DVK¹) at James Brother's Farm, Weeksville, Pasquotank Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield | | | | Size Distribution by Class ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ | Chip Color ⁴ | |
|------------------|----------------------|------------------|--------|--------|--------|---|-----|-----|-----|-----|-------|----------------|----------------|----------------------------------|-------------------------|----------------|
| | | cwt/A | % Atl. | % Chf. | % Yuk. | 1's | 2's | 3's | 4's | 5's | Culls | | | | 24 to 48 hrs | 5 to 7 Days |
| AF2393-7 | 267 | 202 | 66 | 67 | 76 | 24 | 57 | 18 | 0 | 0 | 1 | 75 | 18 | 1.056 | . | . |
| Atlantic | 352 | 308 | 100 | 98 | 119 | 4 | 28 | 50 | 9 | 0 | 8 | 87 | 59 | 1.067 | 2 | 2 |
| B0766-3 | 347 | 321 | 104 | 104 | 124 | 4 | 27 | 58 | 7 | 0 | 3 | 92 | 65 | 1.063 | 2 | 2 |
| B1816-5 | 293 | 260 | 82 | 82 | 99 | 8 | 51 | 35 | 0 | 0 | 5 | 86 | 35 | 1.063 | . | . |
| B1952-2 | 211 | 185 | 58 | 59 | 70 | 5 | 40 | 46 | 0 | 0 | 9 | 86 | 46 | 1.068 | . | . |
| Cherry Red | 296 | 256 | 84 | 81 | 101 | 7 | 36 | 48 | 3 | 0 | 6 | 87 | 51 | 1.063 | . | . |
| Chieftain | 357 | 319 | 104 | 100 | 125 | 10 | 45 | 43 | 0 | 0 | 1 | 88 | 43 | 1.050 | . | . |
| Dakota Pearl | 348 | 316 | 101 | 102 | 118 | 5 | 29 | 55 | 7 | 0 | 5 | 91 | 62 | 1.061 | 2 | 2 |
| Dark Red Norland | 329 | 278 | 90 | 90 | 106 | 8 | 43 | 39 | 2 | 0 | 8 | 84 | 41 | 1.053 | . | . |
| Harley Blackwell | 331 | 291 | 96 | 96 | 112 | 5 | 28 | 54 | 7 | 0 | 7 | 89 | 61 | 1.065 | 1 | 2 |
| MSI005-20Y | 258 | 229 | 75 | 76 | 89 | 7 | 39 | 44 | 6 | 0 | 5 | 89 | 50 | 1.051 | . | . |
| NDTX731-1R | 228 | 200 | 67 | 67 | 74 | 9 | 35 | 47 | 4 | 0 | 4 | 86 | 51 | 1.049 | . | . |
| NY126 | 192 | 171 | 57 | 55 | 67 | 7 | 38 | 46 | 5 | 0 | 5 | 89 | 51 | 1.058 | . | . |
| NY129 | 332 | 306 | 98 | 98 | 117 | 7 | 41 | 48 | 2 | 0 | 1 | 91 | 50 | 1.050 | . | . |
| NY136 | 295 | 263 | 85 | 82 | 102 | 8 | 32 | 49 | 7 | 0 | 3 | 88 | 56 | 1.050 | . | . |
| Red LaSoda | 307 | 261 | 82 | 83 | 97 | 7 | 28 | 42 | 11 | 0 | 11 | 81 | 53 | 1.047 | . | . |
| Snowden | 279 | 251 | 81 | 82 | 92 | 9 | 45 | 40 | 3 | 0 | 2 | 88 | 43 | 1.059 | 1 | 2 |
| Superior | 356 | 321 | 105 | 104 | 130 | 6 | 32 | 51 | 7 | 0 | 5 | 90 | 58 | 1.061 | 3 | 4 |
| Vivaldi | 332 | 283 | 89 | 93 | 106 | 15 | 62 | 19 | 1 | 0 | 3 | 82 | 20 | 1.054 | . | . |
| Yukon Gold | 289 | 267 | 88 | 88 | 100 | 4 | 22 | 59 | 11 | 0 | 4 | 92 | 70 | 1.067 | . | . |
| Grand Mean | 300 | 264 | | | | | | | | | | | | | | |
| CV(%) | 19.6 | 22.3 | | | | | | | | | | | | | | |
| LSD(K=100) | 96.3 | 98.7 | | | | | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air/water method.

⁴ Chip Color Ratings conducted by the NCSU Potato Breeding Program at the TRS/VGJREC:

1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 3b. James Brother's Farm Variety Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 110 DAP¹ (100 DVK¹) at James Brother's Farm, Weeksville, Pasquotank Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| AF2393-7 | 6 | 8 | 8 | 3 | 2 | 8 | 6 | 7 | 2 | 7 | 5 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | SS,GC,MS,EL,YF1 |
| Atlantic | 7 | 9 | 7 | 5 | 6 | 5 | 6 | 7 | 2 | 5 | 8 | 8 | 7 | 0 | 9 | 8 | 5 | 20 | 0 | SS,MS,HS,GC |
| B0766-3 | 6 | 9 | 8 | 7 | 7 | 6 | 7 | 7 | 2 | 7 | 8 | 8 | 7 | 3 | 8.8 | 0 | 0 | 0 | 0 | SS,GC,RZ,SC,SR |
| B1816-5 | 6 | 8 | 8 | 4 | 1 | 7 | 7 | 5 | 4 | 8 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | MS,GC,RZ,SS,YF2 |
| B1952-2 | 7 | 8 | 8 | 5 | 1 | 8 | 4 | 6 | 4 | 5 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | GC,MS,HS,SS |
| Cherry Red | 9 | 9 | 8 | 7 | 2 | 6 | 7 | 7 | 3 | 7 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SS,GC,RZ,LE |
| Chieftain | 8 | 8 | 8 | 7 | 3 | 8 | 7 | 5 | 2 | 5 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | MS,GC,STST,SS |
| Dakota Pearl | 6 | 9 | 9 | 5 | 8 | 7 | 7 | 8 | 2 | 6 | 8 | 8 | 8 | 0 | 9 | 0 | 0 | 0 | 0 | SS,SR,GC,MS |
| Dark Red Norland | 6 | 7 | 8 | 3 | 2 | 7 | 5 | 7 | 3 | 5 | 7 | 6 | 4 | 0 | 9 | 0 | 0 | 0 | 0 | ^RZ,MS,SS,GC,HS |
| Harley Blackwell | 9 | 8 | 7 | 6 | 6 | 5 | 8 | 7 | 1 | 6 | 7 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | SC,SS,RZ,SR |
| MSI005-20Y | 6 | 9 | 9 | 6 | 6 | 6 | 7 | 8 | 2 | 5 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SS,HS,GC,EL,YF1 |
| NDTX731-1R | 8 | 7 | 8 | 6 | 2 | 7 | 7 | 6 | 1 | 4 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | STST,SG,EL,SS,GC,MS |
| NY126 | 7 | 8 | 8 | 6 | 7 | 6 | 6 | 6 | 3 | 7 | 6 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | ^EL,SS,MS,RZ,SG,HS,YF1 |
| NY129 | 7 | 8 | 8 | 7 | 2 | 6 | 7 | 6 | 2 | 8 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | SR,GC,SG,SS,EL,MS |
| NY136 | 7 | 8 | 8 | 6 | 2 | 7 | 5 | 5 | 2 | 6 | 7 | 8 | 7 | 0 | 9 | 0 | 3 | 0 | 0 | MS,SS,SG,GC |
| Red LaSoda | 6 | 8 | 8 | 5 | 2 | 8 | 6 | 5 | 2 | 4 | 8 | 8 | 4 | 0 | 9 | 3 | 0 | 8 | 0 | SS,^HS,MS,GC |
| Snowden | 8 | 8 | 8 | 9 | 6 | 5 | 6 | 6 | 2 | 3 | 6 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | SS,GC |
| Superior | 7 | 8 | 8 | 5 | 9 | 6 | 5 | 7 | 7 | 5 | 7 | 8 | 6 | 0 | 9 | 3 | 3 | 8 | 0 | SS,MS,RZ,EL,GC |
| Vivaldi | 9 | 8 | 8 | 7 | 9 | 6 | 7 | 7 | 5 | 9 | 7 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | HS,SS,EL,MS,RZ,SR |
| Yukon Gold | 9 | 8 | 8 | 7 | 7 | 7 | 5 | 6 | 2 | 7 | 8 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | SS,GC,RZ,MS,YF1 |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in A and B size classes. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 4a. McCotter's Farm Variety Trial. Total and marketable yield, percentage of total yield by size class, specific gravity and chip scores of potato clones harvested 111 DAP¹ at McCotter's Farm, Bayboro, Pamlico Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield | | | | Size Distribution by Class ² (% of total yield) | | | Specific Gravity ³ | Chip Color ⁴ | |
|------------------|----------------------|------------------|--------|--------|--------|---|-----|-------|----------------------------------|-------------------------|----------------|
| | | cwt/A | % Atl. | % DRN. | % Yuk. | A's + B's | C's | Culls | | 24 to 48 hrs | 5 to 7 Days |
| AF2393-7 | 285 | 256 | 87 | 85 | 104 | 90 | 9 | 2 | 1.063 | 2 | 3 |
| Atlantic | 361 | 305 | 100 | 102 | 124 | 84 | 3 | 12 | 1.085 | 2 | 2 |
| B0766-3 | 310 | 275 | 92 | 91 | 111 | 89 | 3 | 9 | 1.072 | 1 | 1 |
| B1806-8 | 380 | 360 | 118 | 119 | 145 | 94 | 4 | 2 | 1.075 | . | . |
| B1816-5 | 299 | 270 | 89 | 89 | 108 | 90 | 4 | 6 | 1.073 | . | . |
| B1829-5 | 288 | 268 | 89 | 89 | 108 | 93 | 5 | 2 | 1.083 | 2 | 2 |
| Dakota Pearl | 342 | 301 | 100 | 99 | 120 | 88 | 6 | 7 | 1.072 | 2 | 1 |
| Dark Red Norland | 341 | 304 | 101 | 100 | 122 | 89 | 3 | 8 | 1.067 | . | . |
| Harley Blackwell | 363 | 348 | 116 | 116 | 140 | 96 | 4 | 0 | 1.074 | 2 | 2 |
| NDTX731-1R | 330 | 305 | 102 | 101 | 121 | 92 | 4 | 5 | 1.064 | . | . |
| NY126 | 359 | 335 | 112 | 111 | 134 | 93 | 2 | 4 | 1.074 | . | . |
| NY129 | 392 | 368 | 122 | 122 | 147 | 94 | 4 | 2 | 1.065 | . | . |
| NY136 | 368 | 331 | 109 | 110 | 133 | 90 | 5 | 6 | 1.070 | . | . |
| Superior | 344 | 319 | 104 | 104 | 128 | 93 | 4 | 3 | 1.077 | 2 | 3 |
| Vivaldi | 383 | 355 | 118 | 118 | 142 | 92 | 4 | 3 | 1.062 | . | . |
| Yukon Gold | 276 | 251 | 84 | 83 | 100 | 91 | 4 | 6 | 1.079 | . | . |
| Grand Mean | 339 | 309 | | | | | | | | | |
| CV(%) | 10.4 | 11.9 | | | | | | | | | |
| LSD(K=100) | 51.9 | 54.2 | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size classes: A's + B's > 1 7/8"; C's ≤ 1 7/8"; Culls = all defective potatoes.

³ Determined by weight in air/water method.

⁴ Chip Color Ratings conducted by the NCSU Potato Breeding Program at the TRS/VGJREC:

1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 4b. McCotter's Farm Variety Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 111 DAP¹ at McCotter's Farm, Bayboro, Pamlico Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|------------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| AF2393-7 | 6 | 7 | 6 | 5 | 2 | 7 | 6 | 7 | 5 | 6 | 5 | 8 | 6 | 0 | 9 | 0 | 3 | 0 | 0 | SR,MS,YF1 |
| Atlantic | 7 | 7 | 8 | 6 | 6 | 6 | 7 | 5 | 3 | 7 | 8 | 7 | 4 | 20 | 7.9 | 5 | 0 | 20 | 0 | ^GC,^LE,MS,SS,HN(4-8,3-7) |
| B0766-3 | 6 | 8 | 8 | 6 | 6 | 7 | 7 | 7 | 2 | 6 | 8 | 8 | 4 | 0 | 9.0 | 0 | 0 | 0 | 3 | ^MS,SR,GC |
| B1806-8 | 6 | 8 | 8 | 6 | 7 | 7 | 5 | 3 | 5 | 8 | 7 | 8 | 7 | 0 | 9.0 | 0 | 0 | 0 | 5 | SR,SS,YF1 |
| B1816-5 | 5 | 8 | 8 | 5 | 1 | 7 | 6 | 5 | 5 | 8 | 6 | 8 | 7 | 0 | 9.0 | 0 | 0 | 0 | 0 | GC,MS,YF2 |
| B1829-5 | 5 | 8 | 8 | 6 | 9 | 8 | 6 | 7 | 3 | 8 | 5 | 8 | 6 | 3 | 8.8 | 0 | 0 | 0 | 0 | MS,SS,SR,HN(1-8) |
| Dakota Pearl | 6 | 8 | 8 | 6 | 9 | 8 | 7 | 5 | 2 | 7 | 6 | 8 | 6 | 15 | 8.2 | 0 | 3 | 0 | 0 | GC,MS,^LE,SR,~RZ,HN(4-8,2-7) |
| Dark Red Norland | 6 | 7 | 6 | 5 | 2 | 7 | 5 | 6 | 4 | 5 | 7 | 8 | 6 | 0 | 9.0 | 0 | 0 | 0 | 0 | GC,SR,SS,MS,LE |
| Harley Blackwell | 9 | 7 | 8 | 6 | 6 | 5 | 7 | 7 | 1 | 7 | 5 | 8 | 8 | 0 | 9.0 | 0 | 0 | 0 | 3 | MS,SS |
| NDTX731-1R | 9 | 7 | 5 | 5 | 2 | 7 | 7 | 5 | 2 | 4 | 6 | 8 | 4 | 0 | 9.0 | 0 | 0 | 3 | 0 | GC,MS,LE |
| NY126 | 7 | 8 | 7 | 6 | 7 | 9 | 5 | 5 | 4 | 8 | 7 | 7 | 6 | 3 | 8.8 | 0 | 0 | 0 | 0 | GC,MS,SR,SS,LE,HN(1-8) |
| NY129 | 9 | 7 | 8 | 7 | 2 | 7 | 7 | 6 | 7 | 6 | 5 | 8 | 7 | 0 | 9.0 | 0 | 0 | 0 | 0 | SR,MS,LE,GC |
| NY136 | 8 | 8 | 7 | 5 | 2 | 7 | 7 | 5 | 2 | 7 | 7 | 8 | 5 | 0 | 9.0 | 0 | 0 | 0 | 0 | GC,SR,MS |
| Superior | 6 | 8 | 8 | 5 | 6 | 6 | 6 | 7 | 2 | 4 | 6 | 7 | 5 | 5 | 8.5 | 0 | 0 | 20 | 0 | MS,SR,SS,HN(2-8) |
| Vivaldi | 9 | 8 | 7 | 7 | 7 | 8 | 7 | 7 | 5 | 8 | 7 | 8 | 7 | 10 | 8.6 | 0 | 3 | 0 | 0 | MS,SS,HN(1-6,1-7,2-8) |
| Yukon Gold | 9 | 7 | 6 | 6 | 7 | 8 | 6 | 5 | 3 | 7 | 7 | 8 | 6 | 8 | 7.8 | 8 | 0 | 10 | 0 | MS,SS,SR,GC,HN(1-8,2-7),YF1 |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in A and B size classes. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 5a. Waters' Produce Variety Trial. Total and marketable yield, percentage of total yield by size class, specific gravity and chip scores of potato clones harvested 98 DAP¹ at Water's Produce, Chocowinity, Beaufort Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield | | Size Distribution by Class ² (% of total yield) | | | Specific Gravity ³ |
|------------------------|----------------------|------------------|--------------|---|-----|-------|-------------------------------|
| | | cwt/A | % Chieftain. | A's + B's | C's | Culls | |
| Adirondack Blue | 158 | 131 | 61 | 83 | 10 | 7 | 1.064 |
| All Blue | 176 | 119 | 56 | 67 | 30 | 3 | 1.067 |
| B1816-5 | 164 | 138 | 63 | 84 | 16 | 1 | 1.067 |
| B1952-2 | 141 | 122 | 57 | 87 | 3 | 10 | 1.072 |
| Chieftain | 253 | 223 | 100 | 88 | 6 | 6 | 1.058 |
| Purple Majesty | 185 | 141 | 63 | 75 | 22 | 3 | 1.070 |
| Grand Mean | 180 | 146 | | | | | |
| CV(%) | 20.7 | 23.8 | | | | | |
| LSD(K=100) | 59.0 | 54.3 | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size classes: A's + B's > 1 7/8"; C's ≤ 1 7/8"; Culls = all defective potatoes.

³ Determined by weight in air/water method.

⁴ Chip Color Ratings conducted by the NCSU Potato Breeding Program at the TRS/VGJREC:

1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 5b. Waters' Produce Variety Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 98 DAP¹ at Waters Produce, Chocowinity, Beaufort Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|-----------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| Adirondack Blue | 8 | 8 | 8 | 4 | 1 | 7 | 5 | 7 | 5 | 8 | 4 | 7 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SR,GC,ID |
| All Blue | 8 | 8 | 8 | 7 | 1 | 5 | 7 | 6 | 6 | 7 | 5 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SR |
| B1816-5 | 6 | 7 | 6 | 4 | 1 | 7 | 6 | 5 | 5 | 8 | 4 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | SR,MS,ID,YF2 |
| B1952-2 | 9 | 8 | 8 | 5 | 1 | 8 | 6 | 7 | 2 | 8 | 6 | 8 | 6 | 0 | 9 | 3 | 0 | 0 | 0 | ^GC,SR,ID,MS |
| Chieftain | 9 | 6 | 8 | 5 | 3 | 7 | 6 | 4 | 3 | 7 | 7 | 8 | 5 | 0 | 9 | 0 | 0 | 3 | 0 | EL,GC,MS |
| Purple Majesty | 6 | 7 | 8 | 4 | 1 | 6 | 3 | 7 | 6 | 6 | 6 | 6 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | SR,CS,MS,RZ |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in A and B size classes. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 6a. Specialty Crops Trial. Total and marketable yield, percentage of total yield by size class, and specific gravity of potato clones harvested 113 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| CLONE | Total Yield cwt/A | Marketable Yield | | Size Dist. by Class (%) ² (% of total yield) | | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ | Chip Color ⁴ | |
|------------------|----------------------|------------------|--------|--|-----|-----|-----|-----|-----|--------|----------------|----------------|----------------------------------|-------------------------|----------------|
| | | cwt/A | % Chf. | %Yuk. | 1's | 2's | 3's | 4's | 5's | Cull's | | | | 24 to 48 hrs | 5 to 7 Days |
| Adirondack Blue | 309 | 254 | 58 | 100 | 8 | 48 | 32 | 1 | 0 | 11 | 81 | 33 | 1.065 | . | . |
| Adirondack Red | 369 | 286 | 68 | 115 | 8 | 59 | 18 | 0 | 0 | 15 | 77 | 18 | 1.065 | . | . |
| All Blue | 285 | 197 | 46 | 77 | 17 | 68 | 1 | 0 | 0 | 14 | 69 | 1 | 1.068 | . | . |
| All Red | 334 | 247 | 58 | 95 | 4 | 38 | 36 | 0 | 0 | 22 | 74 | 36 | 1.060 | . | . |
| B1816-5 | 261 | 211 | 50 | 83 | 7 | 54 | 27 | 0 | 0 | 12 | 81 | 27 | 1.065 | 3 | 3 |
| B1952-2 | 277 | 252 | 59 | 98 | 3 | 28 | 62 | 1 | 0 | 6 | 91 | 63 | 1.074 | 2 | 2 |
| B2152-17 | 365 | 327 | 76 | 127 | 8 | 45 | 44 | 1 | 0 | 2 | 90 | 45 | 1.070 | . | . |
| BP153-1 | 279 | 257 | 60 | 102 | 1 | 9 | 67 | 16 | 3 | 3 | 92 | 83 | 1.060 | . | . |
| Chieftain | 471 | 433 | 100 | 171 | 2 | 28 | 62 | 2 | 0 | 6 | 92 | 64 | 1.064 | . | . |
| Dark Red Norland | 341 | 284 | 67 | 114 | 2 | 22 | 58 | 3 | 0 | 14 | 84 | 61 | 1.058 | . | . |
| Michigan Purple | 345 | 290 | 69 | 114 | 2 | 15 | 54 | 15 | 0 | 14 | 84 | 69 | 1.067 | 2 | 2 |
| MSL228-1 | 256 | 236 | 55 | 92 | 3 | 29 | 61 | 2 | 0 | 4 | 92 | 63 | 1.076 | 2 | 1 |
| Purple Majesty | 272 | 191 | 45 | 76 | 11 | 59 | 11 | 0 | 0 | 19 | 70 | 11 | 1.070 | . | . |
| Yukon Gold | 286 | 260 | 61 | 100 | 4 | 25 | 64 | 3 | 0 | 5 | 91 | 66 | 1.075 | 3 | 3 |
| Grand Mean | 318 | 266 | | | | | | | | | | | | | |
| CV(%) | 15 | 17 | | | | | | | | | | | | | |
| LSD(K=100) | 71.6 | 65.5 | | | | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air/water method.

⁴ Chip Color Ratings conducted by the NCSU Potato Breeding Program at the TRS/VGJREC: 1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 6b. Specialty Crops Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 113 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|-------------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| Adirondack Blue | 6 | 8 | 8 | 5 | 1 | 7 | 6 | 7 | 6 | 4 | 6 | 4 | 4 | 0 | 9 | 0 | 0 | 0 | 0 | SS, ^SISC,SR,MS,purple chip |
| Adirondack Red | 6 | 8 | 8 | 5 | 2 | 8 | 4 | 7 | 6 | 7 | 5 | 4 | 5 | 0 | 9 | 0 | 0 | 0 | 8 | ^SISC,SS,MS,HS,pink chip |
| All Blue | 6 | 8 | 7 | 7 | 1 | 7 | 7 | 7 | 7 | 5 | 5 | 4 | 4 | 0 | 9 | 0 | 0 | 0 | 10 | CS,SISC,MS,SS, dk purple chip |
| All Red | 9 | 8 | 7 | 5 | 2 | 7 | 6 | 7 | 5 | 6 | 6 | 5 | 5 | 0 | 9 | 0 | 0 | 0 | 5 | ^GC,SS,MS,SISC,SR,brown chip |
| B1816-5 | 6 | 8 | 8 | 4 | 1 | 6 | 7 | 5 | 5 | 7 | 4 | 5 | 5 | 0 | 9 | 0 | 0 | 0 | 5 | ^SISC,GC,MS,SS,YF2 |
| B1952-2 | 8 | 8 | 8 | 5 | 1 | 8 | 6 | 5 | 2 | 7 | 5 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 23 | GC,SS,SISC,MS |
| B2152-17 | 6 | 8 | 7 | 5 | 2 | 7 | 6 | 6 | 2 | 8 | 5 | 8 | 7 | 3 | 8.8 | 0 | 0 | 0 | 18 | SS,MS,GC,RZ,SR,YF1,HN(1-8) |
| BP153-1 | 8 | 8 | 8 | 7 | 7 | 5 | 8 | 5 | 1 | 9 | 9 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 18 | SR,GC, ^pink blush |
| Chieftain | 8 | 8 | 8 | 6 | 3 | 7 | 6 | 4 | 5 | 7 | 6 | 8 | 5 | 8 | 8.3 | 3 | 0 | 3 | 8 | SS,MS,RZ,HN(3-8) |
| Dark Red Norland | 6 | 8 | 7 | 4 | 3 | 7 | 6 | 5 | 4 | 7 | 6 | 7 | 5 | 0 | 9 | 0 | 0 | 0 | 13 | ^SS,HS,RZ,GC,SR,SISC,MS |
| Michigan Purple | 6 | 8 | 8 | 6 | 1 | 8 | 5 | 6 | 5 | 6 | 7 | 5 | 5 | 0 | 9 | 0 | 0 | 0 | 5 | CS,MS,SISC |
| MSL228-1 | 9 | 5 | 6 | 7 | 1/9 | 8 | 5 | 7 | 2 | 5 | 6 | 8 | 8 | 0 | 9 | 0 | 0 | 0 | 15 | GC,SR |
| Purple Majesty | 6 | 8 | 8 | 4 | 1 | 7 | 5 | 7 | 5 | 7 | 5 | 4 | 3 | 0 | 9 | 0 | 0 | 0 | 5 | ^^SISC,SR,dark blue chip |
| Yukon Gold | 9 | 8 | 7 | 5 | 7 | 8 | 6 | 7 | 2 | 7 | 6 | 7 | 7 | 0 | 9 | 3 | 0 | 0 | 13 | SR,SS,GC,YF2 |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE184 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in A and B size classes. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 7a. Round White Trial One. Total and marketable yield, percentage of total yield by size class, specific gravity and chip scores of potato clones of potato clones harvested 118DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Atl. | Size Distribution by Class ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ | Chip Color ⁴ | |
|------------|----------------------|---------------------------|--------|---|-----|-----|-----|-----|-------|----------------|----------------|----------------------------------|-------------------------|----------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Culls | | | | 24 to 48 hrs | 5 to 7 Days |
| Atlantic | 300 | 262 | 100 | 3 | 22 | 61 | 5 | 0 | 10 | 87 | 66 | 1.078 | 2 | 2 |
| MSL211-3 | 253 | 223 | 87 | 3 | 32 | 53 | 1 | 0 | 9 | 87 | 55 | 1.067 | 3 | 4 |
| MSM051-3 | 265 | 257 | 101 | 2 | 31 | 63 | 2 | 0 | 1 | 97 | 65 | 1.072 | 2 | 2 |
| MSN105-1 | 337 | 304 | 117 | 5 | 44 | 46 | 0 | 0 | 5 | 90 | 46 | 1.075 | 1 | 2 |
| NC145-1 | 442 | 408 | 158 | 6 | 46 | 46 | 0 | 0 | 1 | 93 | 46 | 1.084 | 3 | 3 |
| NC41-1 | 272 | 244 | 94 | 5 | 41 | 46 | 2 | 0 | 5 | 90 | 49 | 1.068 | 2 | 2 |
| NYA175-1 | 324 | 296 | 114 | 4 | 47 | 44 | 0 | 0 | 5 | 91 | 44 | 1.075 | 2 | 2 |
| NYA195-5 | 362 | 343 | 132 | 2 | 26 | 68 | 1 | 0 | 3 | 95 | 69 | 1.068 | 1 | 1 |
| NYA31-10 | 329 | 310 | 124 | 3 | 27 | 66 | 1 | 0 | 3 | 94 | 67 | 1.072 | 1 | 1 |
| NYA31-6 | 332 | 296 | 116 | 3 | 40 | 50 | 0 | 0 | 8 | 89 | 50 | 1.066 | 2 | 2 |
| NYA37-12 | 293 | 277 | 108 | 4 | 39 | 55 | 0 | 0 | 1 | 94 | 55 | 1.075 | 2 | 2 |
| NYV36-4 | 430 | 405 | 157 | 2 | 22 | 65 | 7 | 1 | 4 | 94 | 72 | 1.070 | 3 | 2 |
| NYV73-49 | 423 | 376 | 147 | 2 | 21 | 62 | 6 | 0 | 9 | 89 | 68 | 1.080 | 2 | 3 |
| Snowden | 365 | 342 | 131 | 3 | 32 | 62 | 0 | 0 | 3 | 94 | 62 | 1.071 | 1 | 2 |
| Superior | 282 | 267 | 104 | 1 | 18 | 77 | 0 | 0 | 5 | 94 | 77 | 1.069 | 2 | 3 |
| Yukon Gold | 249 | 201 | 78 | 2 | 22 | 59 | 0 | 0 | 17 | 81 | 59 | 1.072 | 4 | 4 |
| Grand Mean | 329 | 301 | | | | | | | | | | | | |
| CV(%) | 15 | 15 | | | | | | | | | | | | |
| LSD(K=100) | 66.2 | 62.0 | | | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air/water method.

⁴ Chip Color Ratings conducted by the NCSU Potato Breeding Program at the TRS/VGJREC: 1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 7b. Round White Trial One. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 118 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|-------------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| Atlantic | 8 | 8 | 8 | 5 | 5 | 5 | 7 | 7 | 2 | 5 | 7 | 8 | 6 | 5 | 8.5 | 0 | 0 | 3 | 40 | GC,MS,SR,SS,RZ,HN(2-8) |
| MSL211-3 | 5 | 8 | 7 | 5 | 6 | 8 | 4 | 7 | 5 | 8 | 7 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 15 | HS,SR,^GC,MS |
| MSM051-3 | 6 | 8 | 8 | 5 | 6 | 6 | 4 | 7 | 3 | 7 | 6 | 8 | 5 | 0 | 9 | 8 | 0 | 28 | 0 | SS,RZ,MS |
| MSN105-1 | 6 | 8 | 8 | 5 | 9 | 9 | 5 | 7 | 3 | 7 | 6 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 28 | MS,SR,SG,HS,SS,GC |
| NC145-1 | 6 | 9 | 9 | 9 | 5 | 7 | 7 | 7 | 2 | 7 | 6 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 8 | SR,EL,MS,~DAE,~DSE,^VR (chip) |
| NC41-1 | 6 | 7 | 8 | 4 | 4 | 5 | 7 | 7 | 3 | 7 | 6 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 38 | RZ,SR,SS,MS |
| NYA175-1 | 7 | 8 | 6 | 5 | 9 | 7 | 7 | 7 | 3 | 7 | 6 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 43 | MS,SR,GC,SS |
| NYA195-5 | 6 | 8 | 8 | 5 | 9 | 7 | 6 | 7 | 3 | 8 | 7 | 8 | 7 | 10 | 8.5 | 0 | 0 | 0 | 55 | SS,SR,MS,RZ,HN(1-8) |
| NYA31-10 | 5 | 6 | 8 | 5 | 6 | 8 | 5 | 5 | 4 | 7 | 7 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 5 | SR,RZ,MS,GC,SS |
| NYA31-6 | 6 | 8 | 8 | 5 | 7 | 7 | 3 | 7 | 5 | 8 | 7 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 15 | SR,SS,MS(pears),RZ,BS,PTS |
| NYA37-12 | 6 | 8 | 7 | 5 | 6 | 6 | 6 | 7 | 3 | 8 | 6 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 13 | SS,SR,RZ |
| YYY36-4 | 6 | 9 | 8 | 8 | 9 | 7 | 4 | 7 | 5 | 7 | 9 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 10 | SS,MS,SR |
| YYY73-49 | 8 | 8 | 8 | 7 | 9 | 7 | 6 | 6 | 5 | 7 | 7 | 7 | 3 | 5 | 8.8 | 0 | 0 | 0 | 40 | ^GC,SS,RZ,MS,PTS,HN(2-8) |
| Snowden | 8 | 8 | 8 | 7 | 5 | 5 | 2 | 7 | 3 | 5 | 6 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 15 | SS,SR,MS,DAE,DSE |
| Superior | 6 | 8 | 8 | 4 | 6 | 7 | 5 | 7 | 4 | 6 | 6 | 6 | 5 | 0 | 9 | 0 | 0 | 5 | 20 | MS,SS,CS,SR |
| Yukon Gold | 9 | 8 | 8 | 5 | 7 | 8 | 6 | 7 | 4 | 7 | 6 | 6 | 5 | 0 | 9 | 0 | 0 | 0 | 18 | ^SR,SS,BS,MS,YF1 |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 8a. Round White Trial Two. Total and marketable yield, percentage of total yield by size class, specific gravity and chip scores of potato clones harvested 118 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Atl. | Size Distribution by Class ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ | Chip Color ⁴ | |
|------------------|----------------------|---------------------------|--------|---|-----|-----|-----|-----|-------|----------------|----------------|----------------------------------|-------------------------|----------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Culls | | | | 24 to 48 hrs | 5 to 7 Days |
| AF2115-1 | 367 | 299 | 79 | 3 | 22 | 56 | 3 | 0 | 17 | 81 | 59 | 1.069 | 2 | 1 |
| AF2502-16 | 363 | 326 | 86 | 5 | 34 | 53 | 3 | 0 | 5 | 90 | 56 | 1.071 | 1 | 1 |
| AF2677-10 | 323 | 270 | 71 | 1 | 25 | 57 | 2 | 0 | 16 | 83 | 58 | 1.066 | 2 | 2 |
| AF2685-1 | 188 | 158 | 42 | 5 | 33 | 49 | 1 | 0 | 12 | 83 | 50 | 1.070 | 2 | 2 |
| Atlantic | 415 | 380 | 100 | 2 | 14 | 68 | 10 | 0 | 6 | 92 | 78 | 1.080 | 2 | 2 |
| B1829-5 | 269 | 248 | 66 | 5 | 41 | 51 | 0 | 0 | 3 | 92 | 51 | 1.072 | 1 | 1 |
| B2111-80 | 350 | 328 | 86 | 2 | 17 | 69 | 8 | 1 | 4 | 94 | 77 | 1.073 | 1 | 2 |
| B2122-55 | 332 | 277 | 73 | 2 | 15 | 60 | 9 | 0 | 15 | 83 | 69 | 1.077 | 3 | 3 |
| B2133-46 | 347 | 332 | 87 | 1 | 14 | 70 | 12 | 1 | 3 | 95 | 82 | 1.067 | 1 | 2 |
| B2133-70 | 296 | 288 | 76 | 1 | 12 | 70 | 15 | 0 | 1 | 97 | 85 | 1.074 | 2 | 2 |
| B2414-126 | 304 | 246 | 65 | 4 | 38 | 39 | 2 | 0 | 17 | 79 | 41 | 1.085 | 3 | 2 |
| B2452-3 | 341 | 320 | 84 | 2 | 40 | 53 | 0 | 0 | 4 | 94 | 54 | 1.068 | 2 | 2 |
| BNC47-1 | 311 | 295 | 78 | 2 | 34 | 60 | 1 | 0 | 3 | 95 | 60 | 1.074 | 2 | 2 |
| BNC48-1 | 342 | 328 | 86 | 3 | 31 | 64 | 1 | 0 | 1 | 96 | 64 | 1.079 | 2 | 2 |
| BNC48-3 | 235 | 212 | 56 | 5 | 32 | 58 | 1 | 0 | 5 | 90 | 58 | 1.073 | 1 | 2 |
| BNC49-1 | 434 | 395 | 104 | 2 | 19 | 56 | 16 | 0 | 6 | 91 | 72 | 1.070 | 1 | 2 |
| Dakota Pearl | 372 | 334 | 88 | 2 | 31 | 56 | 3 | 0 | 8 | 90 | 59 | 1.067 | 2 | 1 |
| Harley Blackwell | 426 | 390 | 103 | 3 | 29 | 58 | 4 | 0 | 5 | 92 | 63 | 1.070 | 2 | 2 |
| NY131 | 427 | 406 | 107 | 1 | 23 | 71 | 2 | 0 | 4 | 95 | 72 | 1.071 | 1 | 1 |
| Snowden | 380 | 353 | 93 | 2 | 37 | 53 | 3 | 0 | 5 | 93 | 56 | 1.073 | 1 | 2 |
| Superior | 348 | 323 | 85 | 1 | 23 | 68 | 2 | 0 | 6 | 93 | 70 | 1.068 | 3 | 3 |
| Yukon Gold | 288 | 250 | 66 | 2 | 21 | 60 | 4 | 0 | 13 | 85 | 64 | 1.070 | 3 | 3 |
| Grand Mean | 339 | 307 | | | | | | | | | | | | |
| CV(%) | 11 | 15 | | | | | | | | | | | | |
| LSD(K=100) | 50.9 | 63.6 | | | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air/water method.

⁴ Chip Color Ratings conducted by the NCSU Potato Breeding Program at the TRS/VGJREC: 1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 8b. Round White Trial Two. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 118 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|---------------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| AF2115-1 | 6 | 8 | 8 | 7 | 9 | 7 | 6 | 5 | 5 | 4 | 7 | 8 | 3 | 13 | 8.3 | 0 | 0 | 8 | 3 | ^SS,SR,^MS,RZ,DAE,DSE,HN(5-8) |
| AF2502-16 | 7 | 8 | 8 | 4 | 6 | 5 | 5 | 7 | 4 | 7 | 6 | 7 | 5 | 3 | 8.8 | 0 | 0 | 0 | 5 | SS,GC,MSSR,SC,HN(1-8) |
| AF2677-10 | 6 | 8 | 7 | 4 | 6 | 7 | 5 | 6 | 5 | 8 | 8 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 0 | ^SS,MS,SR,^GC,RZ,HS |
| AF2685-1 | 9 | 7 | 7 | 5 | 6 | 6 | 7 | 7 | 3 | 6 | 6 | 5 | 4 | 8 | 7.5 | 0 | 0 | 0 | 10 | ^SR,MS,HN(2-8,1-5) |
| Atlantic | 6 | 8 | 8 | 5 | 5 | 5 | 7 | 7 | 2 | 6 | 7 | 7 | 7 | 25 | 8 | 5 | 0 | 5 | 20 | GC,SS,SR,RZ,DAE,DSE,HN(7-8,1-7) |
| B1829-5 | 5 | 9 | 8 | 5 | 9 | 6 | 5 | 7 | 3 | 8 | 6 | 7 | 7 | 0 | 9 | 0 | 0 | 0 | 15 | SR,SS,MS |
| B2111-80 | 6 | 8 | 8 | 5 | 5 | 5 | 7 | 7 | 1 | 7 | 7 | 7 | 8 | 0 | 9 | 0 | 0 | 0 | 10 | SS,RZ,GC |
| B2122-55 | 8 | 8 | 8 | 7 | 5 | 6 | 6 | 6 | 3 | 8 | 6 | 4 | 4 | 3 | 8.5 | 13 | 0 | 18 | 3 | SR,SS,^RZ,SG,HS,HN(1-7) |
| B2133-46 | 6 | 7 | 8 | 5 | 5 | 5 | 6 | 6 | 4 | 8 | 8 | 6 | 6 | 0 | 9 | 0 | 0 | 0 | 8 | RZ,SS,PTS,MS |
| B2133-70 | 8 | 9 | 8 | 7 | 6 | 6 | 6 | 4 | 3 | 8 | 8 | 8 | 7 | 0 | 9 | 3 | 0 | 3 | 0 | SR,GC |
| B2414-126 | 8 | 8 | 7 | 7 | 9 | 7 | 6 | 7 | 3 | 7 | 5 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 3 | ^SS,^GC,SR,RZ |
| B2452-3 | 8 | 7 | 8 | 6 | 6 | 6 | 6 | 6 | 5 | 8 | 6 | 7 | 6 | 0 | 9 | 0 | 0 | 3 | 8 | GC,^SS,RZ,PTS,SR |
| BNC47-1 | 7 | 8 | 7 | 5 | 5 | 6 | 5 | 8 | 3 | 7 | 6 | 7 | 8 | 0 | 9 | 0 | 0 | 8 | 8 | GC,SR,SS |
| BNC48-1 | 8 | 7 | 8 | 7 | 6 | 6 | 7 | 7 | 2 | 7 | 7 | 8 | 8 | 0 | 9 | 28 | 0 | 25 | 0 | SS,RZ,SR |
| BNC48-3 | 7 | 6 | 8 | 5 | 6 | 6 | 5 | 7 | 3 | 8 | 6 | 7 | 6 | 0 | 9 | 5 | 0 | 5 | 5 | ^RZ,MS,SS,SR,GC |
| BNC49-1 | 8 | 7 | 7 | 6 | 6 | 6 | 7 | 5 | 2 | 7 | 8 | 8 | 6 | 15 | 8 | 0 | 0 | 0 | 8 | SS,SR,MS,HN(4-8,2-7) |
| Dakota Pearl | 6 | 8 | 8 | 5 | 9 | 8 | 6 | 7 | 3 | 7 | 7 | 7 | 6 | 20 | 7.8 | 3 | 3 | 5 | 5 | SS,MS,SR~DAE,HN(7-8,1-7) |
| Harley Blackwell | 7 | 8 | 8 | 5 | 5 | 5 | 6 | 7 | 2 | 7 | 7 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 18 | SS,MS,SR,~DAE,RZ |
| NY131 | 6 | 7 | 8 | 5 | 9 | 7 | 4 | 7 | 3 | 8 | 7 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 10 | SR,SS,MS,~flats,DAE,~DSE |
| Snowden | 6 | 8 | 8 | 7 | 5 | 5 | 5 | 7 | 2 | 5 | 7 | 8 | 6 | 3 | 8.8 | 0 | 0 | 0 | 3 | SS,MS,SR,DAE,DSE,HN(1-8) |
| Superior | 6 | 8 | 8 | 4 | 6 | 6 | 6 | 7 | 4 | 6 | 7 | 7 | 5 | 0 | 9 | 0 | 0 | 8 | 18 | ^SS,MS,SR |
| Yukon Gold | 9 | 8 | 8 | 5 | 7 | 8 | 6 | 7 | 4 | 7 | 7 | 7 | 6 | 3 | 8.5 | 3 | 0 | 8 | 8 | SS,MS,SR,^GC,HN(1-7) |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 9a. Round White Trial Three. Total and marketable yield, percentage of total yield by size class, specific gravity and chip scores of potato clones harvested 119 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Atl. | Size Distribution by Class ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ | Chip Color ⁴ | |
|-------------------|----------------------|---------------------------|--------|---|-----|-----|-----|-----|-------|----------------|----------------|----------------------------------|-------------------------|----------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Culls | | | | 24 to 48 hrs | 5 to 7 Days |
| AF2215-1 | 312 | 285 | 89 | 1 | 25 | 66 | 1 | 0 | 8 | 91 | 67 | 1.081 | 2 | 2 |
| AF2291-10 | 285 | 251 | 77 | 2 | 30 | 55 | 3 | 0 | 10 | 88 | 58 | 1.081 | 2 | 2 |
| AF2376-5 | 303 | 277 | 85 | 1 | 18 | 64 | 9 | 0 | 9 | 91 | 73 | 1.083 | 3 | 3 |
| AF2698-2 | 335 | 258 | 79 | 1 | 10 | 52 | 15 | 0 | 22 | 77 | 67 | 1.069 | 1 | 3 |
| Amey | 230 | 207 | 64 | 3 | 61 | 28 | 1 | 0 | 8 | 90 | 28 | 1.071 | 2 | 3 |
| Atlantic | 380 | 327 | 100 | 2 | 16 | 65 | 5 | 0 | 12 | 86 | 70 | 1.080 | 1 | 2 |
| B0766-3 | 274 | 254 | 79 | 2 | 24 | 64 | 5 | 1 | 5 | 93 | 69 | 1.072 | 1 | 2 |
| B1870-3 | 325 | 285 | 88 | 2 | 14 | 58 | 15 | 1 | 10 | 87 | 73 | 1.055 | 3 | 4 |
| B1992-106 | 329 | 285 | 88 | 2 | 31 | 53 | 3 | 1 | 10 | 87 | 56 | 1.072 | 2 | 2 |
| B2122-72 | 342 | 312 | 96 | 2 | 41 | 49 | 1 | 0 | 7 | 91 | 50 | 1.078 | 2 | 3 |
| B2133-81 | 292 | 275 | 85 | 2 | 33 | 59 | 3 | 0 | 3 | 94 | 62 | 1.073 | 3 | 2 |
| B2467-21 | 316 | 279 | 86 | 3 | 28 | 56 | 4 | 0 | 9 | 88 | 60 | 1.079 | 3 | 3 |
| BNC49-2 | 310 | 297 | 92 | 1 | 12 | 66 | 18 | 1 | 1 | 96 | 84 | 1.070 | 2 | 2 |
| Kennebec | 339 | 257 | 79 | 1 | 19 | 56 | 0 | 0 | 23 | 75 | 56 | 1.068 | 3 | 3 |
| NY126 | 339 | 310 | 97 | 1 | 24 | 63 | 4 | 0 | 7 | 92 | 67 | 1.071 | 2 | 2 |
| Snowden | 337 | 319 | 99 | 3 | 39 | 54 | 2 | 0 | 2 | 95 | 56 | 1.076 | 1 | 2 |
| Superior | 330 | 306 | 94 | 1 | 19 | 72 | 2 | 0 | 6 | 93 | 74 | 1.068 | 2 | 2 |
| Vivaldi | 349 | 296 | 91 | 2 | 60 | 25 | 0 | 0 | 13 | 85 | 25 | 1.059 | 4 | 5 |
| Yukon Gold | 261 | 233 | 73 | 2 | 23 | 62 | 4 | 0 | 9 | 89 | 66 | 1.072 | 3 | 3 |
| Grand Mean | 315 | 280 | | | | | | | | | | | | |
| CV(%) | 12 | 13 | | | | | | | | | | | | |
| LSD(K=100) | 56.5 | 59 | | | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air/water method.

⁴ Chip Color Ratings conducted by the NCSU Potato Breeding Program at the TRS/VGJREC: 1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 9b. Round White Trial Three. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 119 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|-------------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| AF2215-1 | 8 | 8 | 8 | 6 | 6 | 6 | 6 | 7 | 4 | 7 | 6 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 3 | MS,SR,^GC,SS,DAE,DSE |
| AF2291-10 | 8 | 8 | 7 | 8 | 6 | 6 | 6 | 6 | 4 | 7 | 6 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 8 | SS,MS,SG,HS,GC,RZ |
| AF2376-5 | 7 | 9 | 8 | 9 | 9 | 7 | 5 | 6 | 3 | 7 | 7 | 8 | 4 | 48 | 7.5 | 0 | 10 | 0 | 0 | SS,GC,^SG,MS,HN(15-8,4-7,1-6) |
| AF2698-2 | 9 | 8 | 8 | 6 | 6 | 7 | 7 | 7 | 5 | 7 | 8 | 7 | 3 | 0 | 9 | 0 | 0 | 0 | 5 | ^GC,SR,SS,MS,RZ,EL |
| Amey | 8 | 7 | 6 | 5 | 4 | 2 | 6 | 7 | 6 | 8 | 5 | 8 | 7 | 3 | 8.8 | 0 | 0 | 0 | 5 | SS,GC,SR,MS,HN(1-8) |
| Atlantic | 6 | 7 | 8 | 5 | 5 | 5 | 7 | 7 | 2 | 7 | 7 | 8 | 5 | 43 | 8 | 3 | 0 | 3 | 10 | ^GC,MS,SR,SS,HN(14-8,3-7) |
| B0766-3 | 6 | 8 | 8 | 5 | 6 | 6 | 7 | 7 | 3 | 7 | 7 | 6 | 4 | 0 | 9 | 0 | 0 | 0 | 15 | GC,SS,BS,MS,RZ,SR,DAE,DSE |
| B1870-3 | 6 | 8 | 8 | 5 | 6 | 7 | 7 | 7 | 5 | 8 | 8 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 13 | SR,SS,GC,^VR(chip 5-7d) |
| B1992-106 | 9 | 7 | 6 | 7 | 5 | 5 | 6 | 5 | 5 | 8 | 7 | 5 | 4 | 0 | 9 | 3 | 0 | 3 | 0 | ^RZ,SS |
| B2122-72 | 8 | 8 | 8 | 5 | 6 | 6 | 5 | 6 | 5 | 8 | 5 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | ^SS,SR,HS |
| B2133-81 | 8 | 8 | 8 | 8 | 6 | 5 | 7 | 5 | 5 | 8 | 6 | 8 | 7 | 3 | 8.8 | 0 | 0 | 0 | 3 | MS,GC,RZ,SS,HN(1-8) |
| B2467-21 | 6 | 8 | 8 | 6 | 6 | 6 | 7 | 6 | 2 | 8 | 7 | 8 | 7 | 8 | 8.3 | 0 | 0 | 0 | 3 | SS,RZ,HN(3-8) |
| BNC49-2 | 9 | 8 | 6 | 7 | 5 | 5 | 8 | 6 | 2 | 6 | 9 | 8 | 7 | 0 | 9 | 0 | 3 | 0 | 5 | SS,HS,~DAE,DSE |
| Kennebec | 6 | 8 | 8 | 7 | 6 | 7 | 6 | 6 | 6 | 8 | 9 | 7 | 3 | 0 | 9 | 0 | 0 | 0 | 20 | SS,MS,SR,HS |
| NY126 | 6 | 8 | 7 | 6 | 7 | 6 | 5 | 7 | 5 | 8 | 6 | 7 | 5 | 0 | 9 | 0 | 0 | 0 | 3 | MS,SS,GC,SR,RZ |
| Snowden | 7 | 8 | 7 | 7 | 5 | 5 | 7 | 7 | 2 | 5 | 5 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 5 | MS,SS |
| Superior | 6 | 7 | 7 | 4 | 6 | 7 | 5 | 7 | 4 | 6 | 6 | 7 | 5 | 0 | 9 | 0 | 0 | 8 | 15 | CS,MS,GC,RZ,SS |
| Vivaldi | 9 | 8 | 7 | 6 | 7 | 8 | 7 | 7 | 5 | 8 | 6 | 8 | 6 | 3 | 8.8 | 0 | 0 | 0 | 25 | ^SS,MS,SR,CS,HN(1-8) |
| Yukon Gold | 9 | 8 | 6 | 5 | 7 | 8 | 7 | 7 | 3 | 8 | 7 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 18 | SS,^SR,MS,GC |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 10a. NE- 1014 Round White Trial. Total and marketable yield, percentage of total yield by size class, specific gravity, and chip scores of potato clones harvested 113 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC - 2006

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Atl. | Size Distribution by Class ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ | Chip Color ⁴ | |
|----------------------|----------------------|---------------------------|--------|---|-----|-----|-----|-----|-------|----------------|----------------|----------------------------------|-------------------------|----------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Culls | | | | 24 to 48 hrs | 5 to 7 Days |
| AF2211-9 | 328 | 302 | 95 | 2 | 20 | 70 | 3 | 0 | 6 | 92 | 72 | 1.081 | 2 | 2 |
| AF2291-10 | 300 | 277 | 86 | 4 | 32 | 60 | 1 | 0 | 3 | 92 | 60 | 1.082 | 1 | 1 |
| AF2322-2 | 359 | 318 | 99 | 7 | 39 | 49 | 0 | 0 | 5 | 88 | 49 | 1.055 | 3 | 4 |
| AF2376-5 | 324 | 308 | 96 | 4 | 29 | 65 | 1 | 0 | 1 | 95 | 66 | 1.088 | 2 | 2 |
| AF2916-1 | 323 | 265 | 82 | 8 | 51 | 32 | 0 | 0 | 9 | 82 | 32 | 1.063 | 2 | 3 |
| Atlantic | 361 | 327 | 100 | 3 | 14 | 68 | 9 | 0 | 7 | 90 | 77 | 1.081 | 2 | 3 |
| B1806-8 | 465 | 445 | 139 | 3 | 33 | 61 | 2 | 0 | 1 | 96 | 63 | 1.071 | . | . |
| B1870-3 | 401 | 357 | 111 | 3 | 18 | 62 | 9 | 0 | 8 | 89 | 71 | 1.056 | 2 | 3 |
| Katahdin | 313 | 281 | 91 | 3 | 27 | 62 | 1 | 0 | 7 | 90 | 63 | 1.064 | 3 | 3 |
| Kennebec | 401 | 322 | 101 | 1 | 17 | 62 | 2 | 0 | 19 | 80 | 64 | 1.071 | 3 | 4 |
| NY137 | 398 | 373 | 120 | 4 | 42 | 52 | 0 | 0 | 3 | 93 | 52 | 1.062 | 2 | 2 |
| NY139(NYY28-9) | 349 | 310 | 96 | 7 | 41 | 47 | 0 | 0 | 4 | 89 | 47 | 1.075 | 1 | 1 |
| NYY73-49 | 465 | 421 | 130 | 2 | 15 | 66 | 9 | 0 | 7 | 91 | 75 | 1.085 | 2 | 2 |
| Russet Burbank | 412 | 266 | 80 | 9 | 57 | 7 | 0 | 0 | 28 | 64 | 7 | 1.073 | . | . |
| Russet Norkotah 3117 | 326 | 296 | 92 | 4 | 47 | 44 | 0 | 0 | 6 | 91 | 44 | 1.069 | . | . |
| Shepody | 346 | 276 | 87 | 3 | 30 | 50 | 0 | 0 | 17 | 80 | 50 | 1.076 | . | . |
| Snowden | 374 | 343 | 108 | 4 | 30 | 62 | 0 | 0 | 4 | 92 | 62 | 1.078 | 2 | 1 |
| Superior | 331 | 301 | 93 | 3 | 18 | 73 | 1 | 0 | 6 | 91 | 73 | 1.069 | 2 | 3 |
| Yukon Gold | 268 | 241 | 75 | 3 | 27 | 63 | 0 | 0 | 7 | 90 | 63 | 1.075 | . | . |
| Grand Mean | 360 | 317 | | | | | | | | | | | | |
| CV(%) | 11 | 13 | | | | | | | | | | | | |
| LSD(K=100) | 55.8 | 58.7 | | | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air/water method.

⁴ Chip Color Ratings conducted by the NCSU Potato Breeding Program at the TRS/VGJREC: 1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 10b. NE-1014 Round White Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 113 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|----------------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|-------------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| AF2211-9 | 8 | 9 | 8 | 6 | 6 | 6 | 5 | 5 | 3 | 6 | 8 | 8 | 6 | 5 | 8.3 | 3 | 3 | 5 | 0 | GC,MS,SS,DAE,DSE,HN(1-8,1-7) |
| AF2291-10 | 8 | 8 | 7 | 7 | 6 | 6 | 5 | 6 | 5 | 7 | 7 | 8 | 5 | 3 | 8.8 | 0 | 0 | 0 | 5 | MS,HS,GC,SS,HN(1-8) |
| AF2322-2 | 6 | 7 | 7 | 4 | 6 | 6 | 4 | 7 | 3 | 7 | 6 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SR,SG/HS,^VR(chip) |
| AF2376-5 | 8 | 9 | 8 | 8 | 7 | 7 | 4 | 7 | 2 | 7 | 7 | 8 | 6 | 30 | 7.5 | 0 | 5 | 0 | 0 | SR,MS,~DAE,GC,HN(7-8,4-7,1-6) |
| AF2916-1 | 6 | 8 | 8 | 5 | 6 | 8 | 5 | 7 | 5 | 8 | 7 | 6 | 5 | 0 | 9 | 0 | 0 | 0 | 13 | SS,^RZ,GC,SR,MS |
| Atlantic | 7 | 8 | 8 | 5 | 5 | 5 | 6 | 5 | 2 | 6 | 8 | 8 | 6 | 15 | 8.5 | 3 | 0 | 5 | 3 | GC,^SS,MS,DAE,DSE,HN(5-8,1-7) |
| B1806-8 | 6 | 8 | 8 | 5 | 7 | 7 | 4 | 5 | 5 | 8 | 7 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 3 | SR,HS,SS,YF1 |
| B1870-3 | 6 | 8 | 8 | 4 | 9 | 7 | 6 | 7 | 4 | 8 | 8 | 7 | 6 | 3 | 8.8 | 0 | 0 | 0 | 5 | ^SR,GC,SS,MS,~RZ,HN(1-8) |
| Katahdin | 7 | 8 | 6 | 5 | 9 | 8 | 5 | 7 | 5 | 7 | 6 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 13 | SS,SR |
| Kennebec | 8 | 9 | 8 | 8 | 9 | 7 | 6 | 5 | 5 | 7 | 9 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 13 | ^MS,SR,^SS,GC |
| NY137 | 9 | 8 | 8 | 7 | 7 | 5 | 5 | 6 | 5 | 8 | 7 | 7 | 6 | 8 | 8 | 0 | 0 | 0 | 20 | SS,SR,MS,HN(1-8,1-7,1-6) |
| NY139 (NYY28-9) | 6 | 8 | 8 | 5 | 9 | 6 | 6 | 6 | 5 | 8 | 7 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 5 | GC,SS,SR,MS,RZ |
| NYY73-49 | 9 | 8 | 8 | 6 | 9 | 7 | 7 | 7 | 2 | 8 | 8 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 60 | GC,SS,SR,MS |
| Russet Burbank | 6 | 8 | 8 | 8 | 5 | 3 | 6 | 4 | 7 | 7 | 6 | 8 | 2 | 20 | 8.3 | 5 | 0 | 50 | 3 | ^MS,SS,GC,HN(5-8,3-7) |
| Russet Norkotah 3117 | 6 | 8 | 8 | 6 | 4 | 2 | 6 | 6 | 7 | 7 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 5 | SS,MS,GC |
| Shepody | 6 | 8 | 8 | 6 | 9 | 4 | 6 | 5 | 8 | 7 | 8 | 8 | 3 | 0 | 9 | 0 | 0 | 0 | 20 | MS,PTS,SG,HS |
| Snowden | 9 | 8 | 7 | 7 | 5 | 5 | 7 | 6 | 2 | 5 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 5 | SS,MS,RZ,DAE,DSE |
| Superior | 6 | 8 | 8 | 4 | 6 | 6 | 6 | 7 | 3 | 6 | 6 | 8 | 5 | 8 | 8.5 | 0 | 0 | 5 | 8 | GC,MS,RZ,CS,SS,HN(3-8) |
| Yukon Gold | 8 | 8 | 6 | 5 | 7 | 8 | 6 | 7 | 3 | 7 | 6 | 7 | 7 | 0 | 9 | 0 | 0 | 3 | 0 | ^SR,SS,GC |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 11a. NE-1014 Red Trial. Total and marketable yield, percentage of total yield by size class, and specific gravity, of potato clones harvested 113 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Chieftain | Size Dist. by Class (%) ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ |
|------------------|----------------------|---------------------------|-------------|--|-----|-----|-----|-----|--------|----------------|----------------|----------------------------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Cull's | | | |
| AF2393-7 | 319 | 268 | 60 | 12 | 52 | 32 | 0 | 0 | 4 | 84 | 32 | 1.062 |
| B1816-5 | 368 | 326 | 73 | 3 | 31 | 57 | 1 | 0 | 8 | 89 | 58 | 1.066 |
| B1952-2 | 275 | 247 | 56 | 2 | 25 | 64 | 0 | 0 | 8 | 90 | 64 | 1.073 |
| B2232-3 | 297 | 276 | 63 | 4 | 45 | 46 | 1 | 0 | 3 | 93 | 48 | 1.075 |
| B2327-2 | 283 | 227 | 51 | 10 | 49 | 31 | 0 | 0 | 9 | 80 | 31 | 1.062 |
| B2332-2 | 375 | 337 | 76 | 2 | 20 | 57 | 14 | 1 | 7 | 90 | 70 | 1.061 |
| Cherry Red | 352 | 308 | 69 | 3 | 22 | 62 | 3 | 0 | 10 | 87 | 65 | 1.072 |
| Chieftain | 495 | 445 | 100 | 3 | 23 | 64 | 4 | 0 | 8 | 90 | 67 | 1.060 |
| Dark Red Norland | 319 | 249 | 56 | 2 | 25 | 52 | 1 | 0 | 20 | 78 | 53 | 1.057 |
| NDTX731-1R | 379 | 343 | 77 | 3 | 22 | 64 | 5 | 0 | 7 | 90 | 68 | 1.057 |
| NY129 | 432 | 410 | 93 | 3 | 27 | 65 | 4 | 0 | 2 | 95 | 68 | 1.063 |
| NY136 | 382 | 329 | 75 | 4 | 33 | 52 | 2 | 0 | 10 | 86 | 53 | 1.062 |
| Red LaSoda | 410 | 367 | 83 | 2 | 22 | 62 | 6 | 0 | 9 | 89 | 68 | 1.057 |
| Grand Mean | 361 | 318 | | | | | | | | | | |
| CV(%) | 7 | 10 | | | | | | | | | | |
| LSD(K=100) | 32.8 | 42.7 | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air/water method.

Table 11b. NE-1014 Red Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 113 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|---------------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| AF2393-7 | 6 | 7 | 6 | 4 | 2 | 8 | 6 | 6 | 3 | 7 | 5 | 7 | 7 | 0 | 9 | 0 | 0 | 0 | 5 | SR,SS,SISC,MS |
| B1816-5 | 6 | 8 | 8 | 5 | 1 | 7 | 6 | 5 | 5 | 7 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | GC,SISC,SS,SR,MS,PTS |
| B1952-2 | 8 | 8 | 8 | 5 | 1 | 8 | 4 | 4 | 3 | 7 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 20 | GC,SR,MS |
| B2232-3 | 8 | 7 | 8 | 5 | 5 | 3 | 6 | 6 | 6 | 8 | 7 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 30 | CS,SS,SR,HS,MS |
| B2327-2 | 7 | 7 | 6 | 4 | 2 | 8 | 7 | 7 | 2 | 8 | 4 | 6 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | SR,SS,GC,MS,SISC |
| B2332-2 | 9 | 8 | 8 | 5 | 3 | 7 | 6 | 3 | 4 | 8 | 8 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 0 | SR,SS,GC,MS |
| Cherry Red | 9 | 8 | 8 | 5 | 2 | 6 | 4 | 7 | 5 | 7 | 7 | 7 | 6 | 0 | 9 | 3 | 0 | 0 | 13 | GC,MS,SISC,SR,RZ,SS,EL |
| Chieftain | 9 | 8 | 8 | 6 | 3 | 7 | 6 | 5 | 5 | 6 | 7 | 7 | 5 | 45 | 7.3 | 0 | 0 | 3 | 3 | RZ,MS,SS,SR,HS,HN(12-8,4-7,2-6) |
| Dark Red Norland | 6 | 8 | 7 | 3 | 2 | 8 | 7 | 7 | 5 | 7 | 6 | 7 | 5 | 0 | 9 | 0 | 0 | 0 | 5 | ^SS,GC,SR,RZ,GC,MS,SISC,FS |
| NDTX731-1R | 8 | 8 | 6 | 5 | 2 | 7 | 8 | 7 | 1 | 5 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 3 | 5 | SS,SR,MS,DAE,DSE,GC,RZ |
| NY129 | 9 | 8 | 8 | 7 | 2 | 6 | 7 | 5 | 2 | 7 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 3 | SR,SS,MS,GC,SISC |
| NY136 | 7 | 8 | 7 | 5 | 2 | 8 | 6 | 5 | 4 | 6 | 7 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 15 | ^SS,MS,SISC,SR,CS,RZ |
| Red LaSoda | 7 | 7 | 5 | 5 | 3 | 7 | 5 | 7 | 5 | 3 | 8 | 8 | 4 | 0 | 9 | 3 | 0 | 3 | 10 | MS,SR,GC,RZ,SCB |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 12a. Unreplicated Trial. Total and marketable yield, percentage of total yield by size class, specific gravity, and chip scores of potato clones harvested 117 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Atlantic | Size Dist. by Class (%) ² (% of total yield) | | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ |
|-----------|----------------------|---------------------------|------------|--|-----|-----|-----|-----|--------|--|----------------|----------------|----------------------------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Cull's | | | | |
| AF0337-4 | 425 | 363 | 131 | 6 | 43 | 42 | 1 | 0 | 9 | | 85 | 43 | 1.057 |
| AF0338-17 | 339 | 303 | 110 | 6 | 30 | 54 | 5 | 0 | 5 | | 89 | 59 | 1.075 |
| AF0339-28 | 435 | 404 | 146 | 3 | 34 | 59 | 0 | 0 | 4 | | 93 | 59 | 1.067 |
| AF0339-39 | 331 | 310 | 112 | 5 | 45 | 48 | 0 | 0 | 2 | | 93 | 48 | 1.060 |
| AF3310-1 | 296 | 258 | 93 | 4 | 34 | 53 | 0 | 0 | 9 | | 87 | 53 | 1.071 |
| AF3310-12 | 233 | 202 | 73 | 6 | 32 | 55 | 0 | 0 | 7 | | 87 | 55 | 1.075 |
| AF3310-13 | 411 | 328 | 119 | 5 | 24 | 53 | 2 | 0 | 16 | | 80 | 55 | 1.073 |
| AF3310-16 | 270 | 227 | 102 | 6 | 34 | 50 | 0 | 0 | 10 | | 84 | 50 | 1.065 |
| AF3310-17 | 327 | 273 | 99 | 5 | 71 | 13 | 0 | 0 | 11 | | 84 | 13 | 1.070 |
| AF3310-3 | 401 | 372 | 135 | 4 | 41 | 52 | 0 | 0 | 3 | | 93 | 52 | 1.074 |
| AF3310-5 | 383 | 340 | 123 | 9 | 59 | 30 | 0 | 0 | 2 | | 89 | 30 | 1.069 |
| AF3317-15 | 329 | 289 | 105 | 7 | 80 | 8 | 0 | 0 | 6 | | 88 | 8 | 1.081 |
| AF3318-1 | 329 | 318 | 143 | 1 | 17 | 67 | 13 | 0 | 2 | | 97 | 80 | 1.071 |
| AF3318-13 | 383 | 318 | 143 | 15 | 52 | 32 | 0 | 0 | 2 | | 83 | 32 | 1.065 |
| AF3318-2 | 202 | 178 | 80 | 2 | 40 | 48 | 0 | 0 | 10 | | 88 | 48 | 1.070 |
| AF3318-6 | 342 | 300 | 135 | 8 | 50 | 38 | 0 | 0 | 4 | | 88 | 38 | 1.078 |
| AF3325-2 | 167 | 140 | 38 | 11 | 84 | 0 | 0 | 0 | 5 | | 84 | 0 | 1.069 |
| AF3326-7 | 281 | 261 | 94 | 3 | 72 | 21 | 0 | 0 | 4 | | 93 | 21 | 1.056 |
| AF3327-24 | 268 | 128 | 47 | 1 | 40 | 8 | 0 | 0 | 51 | | 48 | 8 | 1.052 |
| AF3327-27 | 327 | 276 | 100 | 6 | 78 | 6 | 0 | 0 | 10 | | 84 | 6 | 1.067 |
| AF3327-28 | 311 | 232 | 84 | 6 | 53 | 22 | 0 | 0 | 20 | | 75 | 22 | 1.067 |
| AF3329-16 | 372 | 220 | 80 | 4 | 43 | 16 | 0 | 0 | 37 | | 59 | 16 | 1.058 |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² Size 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 = all defective potatoes.

³ Determined by weight in air/water method.

Table 12b. Unreplicated Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 117 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|-----------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|-----------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| AF0337-4 | 6 | 8 | 7 | 6 | 6 | 7 | 4 | 7 | 5 | 5 | 6 | 8 | 2 | 0 | 9 | 0 | 0 | 0 | 0 | DAE,MS,SR,SS |
| AF0338-17 | 9 | 8 | 8 | 7 | 6 | 5 | 5 | 6 | 5 | 7 | 6 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 10 | GC,SS,SR |
| AF0339-28 | 9 | 9 | 8 | 8 | 6 | 6 | 7 | 6 | 5 | 8 | 6 | 8 | 6 | 10 | 8 | 0 | 0 | 30 | 10 | SS,MS,GC |
| AF0339-39 | 6 | 7 | 8 | 4 | 6 | 6 | 6 | 7 | 1 | 7 | 5 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | SS,MS |
| AF3310-1 | 8 | 7 | 8 | 6 | 6 | 5 | 5 | 5 | 5 | 7 | 6 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 10 | EL,RZ,GC,SR |
| AF3310-12 | 5 | 7 | 8 | 5 | 8 | 7 | 7 | 7 | 5 | 8 | 6 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | SR,MS |
| AF3310-13 | 6 | 8 | 8 | 7 | 6 | 6 | 5 | 4 | 3 | 7 | 6 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 20 | ^SS,SR,MS,RZ |
| AF3310-16 | 8 | 7 | 8 | 7 | 6 | 6 | 5 | 8 | 2 | 8 | 6 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 10 | GC,MS,SS,SR |
| AF3310-17 | 5 | 8 | 8 | 5 | 9 | 7 | 5 | 7 | 5 | 8 | 5 | 7 | 5 | 0 | 9 | 0 | 0 | 0 | 10 | MS,GC,SS,IL,EL,RZ |
| AF3310-3 | 8 | 8 | 8 | 8 | 6 | 6 | 5 | 6 | 3 | 8 | 5 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 20 | MS |
| AF3310-5 | 6 | 8 | 8 | 7 | 8 | 6 | 6 | 5 | 3 | 8 | 4 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 50 | SR,SS,GC,MS |
| AF3317-15 | 9 | 8 | 8 | 9 | 5 | 3 | 6 | 5 | 8 | 7 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 20 | SS,SG,MS,HS |
| AF3318-1 | 9 | 8 | 7 | 6 | 9 | 7 | 4 | 7 | 3 | 5 | 8 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SR |
| AF3318-13 | 6 | 8 | 8 | 6 | 8 | 7 | 6 | 7 | 3 | 8 | 6 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | SS,IL-RZ |
| AF3318-2 | 8 | 7 | 6 | 5 | 7 | 7 | 4 | 7 | 4 | 7 | 6 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 10 | SS,SR,MS |
| AF3318-6 | 6 | 8 | 8 | 5 | 9 | 7 | 4 | 8 | 2 | 6 | 5 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | SS,MS,SR,HS |
| AF3325-2 | 8 | 7 | 6 | 4 | 4 | 2 | 5 | 8 | 9 | 9 | 3 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SS,too small |
| AF3326-7 | 8 | 8 | 8 | 5 | 6 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 10 | RZ,MS |
| AF3327-24 | 6 | 7 | 8 | 6 | 7 | 6 | 7 | 7 | 1 | 7 | 7 | 8 | 2 | 0 | 9 | 0 | 0 | 0 | 0 | MS,GC |
| AF3327-27 | 6 | 8 | 7 | 5 | 5 | 3 | 7 | 7 | 6 | 7 | 6 | 8 | 6 | 30 | 7 | 0 | 0 | 0 | 0 | MS,SS,HS,HN(1-8,2-7) |
| AF3327-28 | 8 | 8 | 8 | 7 | 5 | 3 | 6 | 5 | 7 | 6 | 8 | 8 | 3 | 10 | 7 | 10 | 0 | 10 | 0 | GC,MS,SS |
| AF3329-16 | 6 | 8 | 8 | 6 | 8 | 7 | 6 | 7 | 8 | 8 | 7 | 6 | 1 | 0 | 9 | 0 | 0 | 0 | 0 | GC,MS,HS,SR,IL-RZ |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 12a. Continued.

| Clone | Total Yield cwt/A | Marketable Yield cwt/A % Atlantic | | Size Dist. by Class (%) ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ |
|-----------|----------------------|---|-----|--|-----|-----|-----|-----|--------|----------------|----------------|----------------------------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Cull's | | | |
| AF3331-1 | 266 | 222 | 77 | 4 | 27 | 49 | 7 | 0 | 13 | 83 | 56 | 1.066 |
| AF3331-5 | 273 | 226 | 82 | 10 | 75 | 8 | 0 | 0 | 7 | 83 | 8 | 1.062 |
| AF3332-6 | 245 | 216 | 97 | 3 | 23 | 60 | 5 | 0 | 9 | 88 | 65 | 1.068 |
| AF3346-2 | 336 | 293 | 131 | 2 | 18 | 64 | 6 | 0 | 10 | 87 | 69 | 1.060 |
| AF3350-2 | 230 | 204 | 92 | 4 | 47 | 41 | 0 | 0 | 7 | 89 | 41 | 1.069 |
| AF3353-1 | 158 | 104 | 38 | 22 | 66 | 0 | 0 | 0 | 12 | 66 | 0 | 1.060 |
| AF3360-1 | 407 | 361 | 162 | 5 | 44 | 45 | 0 | 0 | 7 | 89 | 45 | 1.098 |
| AF3362-1 | 394 | 348 | 126 | 2 | 59 | 30 | 0 | 0 | 9 | 89 | 30 | 1.062 |
| Atlantic | 393 | 342 | 126 | 2 | 20 | 58 | 9 | 0 | 11 | 87 | 67 | 1.076 |
| B2333-1 | 259 | 126 | 34 | 20 | 42 | 6 | 0 | 0 | 31 | 49 | 6 | 1.071 |
| B2431-121 | 421 | 330 | 90 | 4 | 63 | 16 | 0 | 0 | 17 | 79 | 16 | 1.070 |
| B2440-122 | 326 | 292 | 79 | 6 | 33 | 56 | 0 | 0 | 5 | 90 | 56 | 1.073 |
| B2440-124 | 283 | 242 | 66 | 4 | 40 | 46 | 0 | 0 | 10 | 86 | 46 | 1.069 |
| B2445-6 | 440 | 368 | 100 | 4 | 32 | 50 | 1 | 0 | 13 | 84 | 52 | 1.064 |
| B2453-9 | 270 | 256 | 70 | 2 | 56 | 37 | 2 | 0 | 4 | 95 | 39 | 1.069 |
| B2460-23 | 417 | 371 | 101 | 4 | 25 | 55 | 9 | 0 | 7 | 89 | 64 | 1.079 |
| B2478-12 | 356 | 320 | 87 | 8 | 58 | 32 | 0 | 0 | 2 | 90 | 32 | 1.064 |
| B2483-4 | 312 | 254 | 69 | 16 | 63 | 19 | 0 | 0 | 2 | 82 | 19 | 1.079 |
| B2485-2 | 311 | 293 | 80 | 4 | 22 | 65 | 7 | 0 | 2 | 94 | 72 | 1.068 |
| B2485-3 | 412 | 367 | 100 | 5 | 31 | 58 | 0 | 0 | 6 | 89 | 58 | 1.069 |
| B2486-4 | 339 | 318 | 86 | 2 | 35 | 57 | 2 | 0 | 4 | 94 | 58 | 1.072 |
| B2487-1 | 342 | 286 | 78 | 5 | 37 | 47 | 0 | 0 | 12 | 84 | 47 | 1.072 |

¹ DAP = Days After Planting; DVK = Days to Vine Kill² Size 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 = all defective potatoes.³ Determined by weight in air/water method.

Table 12b. Continued.

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | | Comments ⁴ |
|-----------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|---------------------------------|-----------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | | |
| AF3331-1 | 9 | 9 | 8 | 7 | 3 | 5 | 5 | 6 | 2 | 6 | 7 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | GC,SS,SISC | |
| AF3331-5 | 9 | 8 | 5 | 4 | 7 | 8 | 7 | 7 | 6 | 8 | 5 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 10 | SS,MS,RZ | |
| AF3332-6 | 8 | 8 | 8 | 6 | 6 | 6 | 7 | 6 | 3 | 6 | 7 | 7 | 5 | 10 | 8 | 0 | 0 | 0 | 0 | RZ,IL,SS,SG | |
| AF3346-2 | 8 | 9 | 8 | 7 | 6 | 7 | 6 | 7 | 5 | 5 | 8 | 8 | 5 | 20 | 7 | 0 | 0 | 30 | 10 | MS,GC,SS,lumpy,HN(1-7,1-6) | |
| AF3350-2 | 8 | 8 | 6 | 5 | 9 | 6 | 6 | 5 | 3 | 7 | 7 | 8 | 5 | 10 | 8 | 0 | 0 | 0 | 0 | SR,FS,GC | |
| AF3353-1 | 8 | 7 | 5 | 4 | 5 | 6 | 7 | 6 | 7 | 8 | 4 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 10 | MS,SS,IL-RZ | |
| AF3360-1 | 9 | 8 | 8 | 9 | 9 | 7 | 5 | 6 | 2 | 7 | 6 | 8 | 7 | 0 | 9 | 10 | 0 | 0 | 10 | SS,FS | |
| AF3362-1 | 9 | 8 | 8 | 7 | 5 | 6 | 7 | 6 | 8 | 7 | 8 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SS,FS,RZ,IL | |
| Atlantic | 8 | 8 | 8 | 6 | 6 | 5 | 6 | 6 | 2 | 7 | 7 | 8 | 5 | 23 | 7.3 | 5 | 0 | 10 | 20 | GC,RZ,MS,SS,HN(7-8,3-7,1-5) | |
| B2333-1 | 9 | 8 | 8 | 7 | 7 | 6 | 7 | 7 | 5 | 7 | 3 | 8 | 3 | 10 | 8 | 0 | 0 | 0 | 10 | ^HS,SS,^SG,YF2 | |
| B2431-121 | 9 | 8 | 7 | 7 | 7 | 7 | 3 | 7 | 7 | 7 | 7 | 8 | 2 | 0 | 9 | 0 | 0 | 0 | 20 | SS,MS,HS,SG | |
| B2440-122 | 8 | 8 | 8 | 8 | 9 | 8 | 7 | 6 | 5 | 8 | 7 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 60 | SR,GC,MS,SS,YF1 | |
| B2440-124 | 6 | 8 | 8 | 4 | 9 | 7 | 7 | 7 | 5 | 8 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 30 | MS,SS,SR,YF1 | |
| B2445-6 | 9 | 7 | 5 | 6 | 6 | 6 | 4 | 7 | 5 | 8 | 8 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | SS,HS,SG,MS,GC | |
| B2453-9 | 8 | 8 | 8 | 7 | 4 | 2 | 7 | 7 | 8 | 8 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | RZ,GC,YF1 | |
| B2460-23 | 9 | 9 | 8 | 9 | 6 | 6 | 5 | 6 | 3 | 7 | 8 | 8 | 5 | 40 | 8 | 0 | 0 | 20 | 0 | GC,RZ,MS,SR,SS,STST,HN(2-8,2-7) | |
| B2478-12 | 9 | 8 | 8 | 5 | 7 | 6 | 7 | 7 | 2 | 6 | 5 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | SS,IL,BS | |
| B2483-4 | 9 | 8 | 8 | 5 | 7 | 6 | 6 | 6 | 2 | 8 | 4 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 20 | SS,SR,MS | |
| B2485-2 | 9 | 8 | 8 | 5 | 7 | 5 | 5 | 5 | 6 | 8 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SR | |
| B2485-3 | 5 | 8 | 8 | 5 | 7 | 6 | 6 | 6 | 3 | 7 | 6 | 7 | 7 | 0 | 9 | 0 | 0 | 0 | 30 | MS,RZ,SS | |
| B2486-4 | 6 | 8 | 7 | 6 | 6 | 5 | 5 | 6 | 5 | 8 | 6 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 10 | SR,GC | |
| B2487-1 | 6 | 8 | 8 | 5 | 7 | 5 | 7 | 6 | 5 | 7 | 6 | 6 | 6 | 0 | 9 | 0 | 0 | 20 | 20 | RZ,SR,SS | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 12a. Continued.

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Atlantic | Size Dist. by Class (%) ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ |
|----------|----------------------|---------------------------|------------|--|-----|-----|-----|-----|--------|----------------|----------------|----------------------------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Cull's | | | |
| B2487-17 | 262 | 233 | 64 | 6 | 42 | 47 | 0 | 0 | 5 | 89 | 47 | 1.070 |
| B2487-2 | 184 | 152 | 41 | 7 | 35 | 48 | 0 | 0 | 10 | 83 | 48 | 1.063 |
| B2489-3 | 310 | 289 | 79 | 6 | 57 | 37 | 0 | 0 | 1 | 93 | 37 | 1.077 |
| B2489-7 | 292 | 241 | 66 | 11 | 54 | 28 | 0 | 0 | 6 | 82 | 28 | 1.072 |
| B2490-7 | 387 | 337 | 93 | 9 | 52 | 35 | 0 | 0 | 4 | 87 | 35 | 1.087 |
| B2491-19 | 265 | 245 | 67 | 6 | 44 | 46 | 2 | 0 | 2 | 92 | 48 | 1.065 |
| B2491-22 | 399 | 359 | 99 | 7 | 37 | 50 | 2 | 0 | 3 | 90 | 53 | 1.069 |
| B2492-2 | 316 | 291 | 80 | 7 | 42 | 50 | 0 | 0 | 1 | 92 | 50 | 1.065 |
| B2492-7 | 293 | 264 | 72 | 2 | 33 | 57 | 0 | 0 | 8 | 90 | 57 | 1.051 |
| B2494-10 | 385 | 348 | 96 | 3 | 21 | 70 | 0 | 0 | 7 | 90 | 70 | 1.076 |
| B2494-18 | 321 | 311 | 86 | 2 | 28 | 66 | 3 | 0 | 1 | 97 | 69 | 1.070 |
| B2494-2 | 413 | 368 | 101 | 9 | 43 | 46 | 0 | 0 | 2 | 89 | 46 | 1.070 |
| B2494-21 | 419 | 361 | 99 | 3 | 21 | 47 | 19 | 0 | 10 | 86 | 65 | 1.071 |
| B2494-7 | 240 | 223 | 61 | 2 | 17 | 74 | 2 | 0 | 5 | 93 | 76 | 1.076 |
| B2495-6 | 283 | 231 | 63 | 4 | 30 | 44 | 8 | 0 | 14 | 81 | 52 | 1.065 |
| B2497-17 | 394 | 373 | 102 | 1 | 23 | 63 | 9 | 0 | 4 | 95 | 72 | 1.068 |
| B2500-1 | 324 | 262 | 72 | 10 | 65 | 16 | 0 | 0 | 9 | 81 | 16 | 1.073 |
| B2500-3 | 298 | 271 | 74 | 5 | 44 | 47 | 0 | 0 | 4 | 91 | 47 | 1.071 |
| B2500-6 | 224 | 174 | 48 | 4 | 33 | 45 | 0 | 0 | 18 | 77 | 45 | 1.068 |
| B2501-14 | 364 | 306 | 84 | 5 | 32 | 52 | 0 | 0 | 11 | 84 | 52 | 1.064 |
| B2501-8 | 366 | 326 | 89 | 8 | 40 | 49 | 0 | 0 | 3 | 89 | 49 | 1.056 |
| B2502-6 | 358 | 325 | 89 | 4 | 31 | 56 | 4 | 0 | 5 | 91 | 59 | 1.062 |

¹ DAP = Days After Planting; DVK = Days to Vine Kill² Size 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 = all defective potatoes.³ Determined by weight in air/water method.

Table 12b. Continued.

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|----------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|-----------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| B2487-17 | 5 | 8 | 8 | 5 | 9 | 7 | 6 | 7 | 2 | 8 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 50 | PTS,SS,EL |
| B2487-2 | 6 | 8 | 8 | 4 | 9 | 5 | 7 | 7 | 2 | 7 | 6 | 8 | 5 | 0 | 9 | 20 | 0 | 50 | 40 | SS,SR |
| B2489-3 | 6 | 8 | 8 | 4 | 6 | 5 | 6 | 7 | 1 | 7 | 4 | 8 | 8 | 0 | 9 | 0 | 0 | 10 | 20 | SS |
| B2489-7 | 6 | 7 | 8 | 5 | 9 | 7 | 5 | 7 | 1 | 8 | 5 | 8 | 8 | 0 | 9 | 0 | 0 | 0 | 0 | SS,GC,EL |
| B2490-7 | 8 | 6 | 8 | 8 | 9 | 6 | 7 | 6 | 2 | 7 | 5 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | RZ,GC,SS |
| B2491-19 | 6 | 8 | 7 | 6 | 8 | 7 | 6 | 7 | 5 | 8 | 6 | 8 | 8 | 0 | 9 | 0 | 0 | 0 | 30 | SS |
| B2491-22 | 5 | 8 | 8 | 6 | 8 | 7 | 6 | 6 | 5 | 8 | 7 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | SS,RZ,SR |
| B2492-2 | 8 | 8 | 7 | 6 | 9 | 6 | 6 | 7 | 2 | 8 | 6 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | MS,SS |
| B2492-7 | 6 | 7 | 8 | 4 | 6 | 5 | 7 | 7 | 2 | 7 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | GC,RZ,IL,SS |
| B2494-10 | 6 | 8 | 8 | 6 | 6 | 5 | 7 | 6 | 4 | 8 | 7 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | SS,GC |
| B2494-18 | 6 | 9 | 8 | 5 | 9 | 7 | 6 | 7 | 2 | 7 | 6 | 8 | 7 | 10 | 7 | 0 | 0 | 10 | 20 | SS |
| B2494-2 | 6 | 8 | 8 | 8 | 9 | 6 | 5 | 5 | 3 | 8 | 6 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | RZ,GC,SS |
| B2494-21 | 6 | 7 | 8 | 6 | 6 | 6 | 7 | 5 | 4 | 8 | 8 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | RZ,^GC,SS |
| B2494-7 | 8 | 8 | 8 | 7 | 6 | 6 | 5 | 7 | 1 | 8 | 6 | 7 | 7 | 0 | 9 | 0 | 0 | 0 | 10 | IL-RZ,SS,GC |
| B2495-6 | 5 | 9 | 8 | 8 | 8 | 7 | 7 | 6 | 2 | 7 | 6 | 8 | 4 | 0 | 9 | 30 | 0 | 0 | 10 | GC,SS,DAE |
| B2497-17 | 6 | 9 | 8 | 5 | 8 | 8 | 5 | 7 | 5 | 7 | 8 | 8 | 8 | 0 | 9 | 0 | 0 | 0 | 0 | SS,MS |
| B2500-1 | 8 | 7 | 8 | 5 | 9 | 8 | 7 | 6 | 5 | 8 | 5 | 7 | 4 | 0 | 9 | 10 | 0 | 0 | 30 | EL,RZ,SR |
| B2500-3 | 9 | 8 | 8 | 6 | 9 | 7 | 6 | 5 | 2 | 8 | 5 | 8 | 5 | 10 | 7 | 0 | 0 | 0 | 0 | SS,SR,GC,MS |
| B2500-6 | 5 | 8 | 8 | 5 | 8 | 6 | 6 | 5 | 4 | 8 | 6 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 10 | RZ,SR,GC,MS,SS |
| B2501-14 | 8 | 8 | 8 | 5 | 9 | 6 | 7 | 6 | 4 | 7 | 6 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 0 | SS,GC,SG,MS,SR |
| B2501-8 | 5 | 9 | 8 | 4 | 9 | 6 | 7 | 6 | 2 | 8 | 6 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 10 | SR |
| B2502-6 | 9 | 8 | 7 | 4 | 6 | 5 | 6 | 5 | 3 | 7 | 7 | 8 | 7 | 10 | 8 | 0 | 0 | 20 | 10 | SR,MS,SS |

¹ DAP = Days After Planting; DVK = Days to Vine Kill² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot⁴ See Appendix 3 for Comment Codes

Table 12a. Continued.

| Clone | Total Yield cwt/A | Marketable Yield cwt/A % Atlantic | Size Dist. by Class (%) ² (% of total yield) | | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ |
|------------|----------------------|---|--|-----|-----|-----|-----|--------|----|----------------|----------------|----------------------------------|
| | | | 1's | 2's | 3's | 4's | 5's | Cull's | | | | |
| | | | | | | | | | | | | |
| B2509-2 | 181 | 143 39 | 11 | 68 | 12 | 0 | 0 | 10 | 79 | 12 | 1.070 | |
| B2514-14 | 309 | 256 70 | 4 | 67 | 16 | 0 | 0 | 13 | 83 | 16 | 1.078 | |
| B2527-6 | 296 | 198 77 | 32 | 56 | 11 | 0 | 0 | 2 | 67 | 11 | 1.075 | |
| B2528-2 | 416 | 359 98 | 8 | 35 | 51 | 0 | 0 | 5 | 86 | 51 | 1.064 | |
| B2528-3 | 220 | 136 52 | 35 | 57 | 5 | 0 | 0 | 3 | 62 | 5 | 1.068 | |
| B2529-3 | 102 | 70 27 | 22 | 64 | 4 | 0 | 0 | 10 | 68 | 4 | 1.061 | |
| B2529-4 | 262 | 185 71 | 13 | 65 | 6 | 0 | 0 | 17 | 71 | 6 | 1.067 | |
| B2530-2 | 376 | 283 78 | 11 | 44 | 30 | 1 | 0 | 14 | 75 | 31 | 1.090 | |
| B2533-1 | 228 | 157 57 | 25 | 69 | 0 | 0 | 0 | 6 | 69 | 0 | 1.089 | |
| B2533-3 | 347 | 214 77 | 14 | 39 | 22 | 0 | 0 | 24 | 61 | 22 | 1.079 | |
| B2533-6 | 390 | 328 119 | 11 | 45 | 38 | 1 | 0 | 5 | 84 | 39 | 1.071 | |
| BCO01283-3 | 412 | 329 81 | 5 | 46 | 33 | 0 | 0 | 15 | 80 | 33 | 1.059 | |
| BCO01371-2 | 256 | 189 47 | 20 | 68 | 6 | 0 | 0 | 6 | 74 | 6 | 1.059 | |
| BCO01389-1 | 348 | 284 70 | 6 | 41 | 41 | 0 | 0 | 12 | 82 | 41 | 1.075 | |
| BCO01398-1 | 275 | 233 81 | 7 | 60 | 25 | 0 | 0 | 8 | 84 | 25 | 1.068 | |
| BCO01401-2 | 206 | 160 62 | 22 | 64 | 13 | 0 | 0 | 0 | 78 | 13 | 1.067 | |
| BNC41-13 | 393 | 345 94 | 9 | 42 | 46 | 0 | 0 | 3 | 88 | 46 | 1.073 | |
| BNC41-4 | 266 | 244 66 | 4 | 31 | 61 | 0 | 0 | 4 | 92 | 61 | 1.062 | |
| BNC41-8 | 194 | 163 44 | 10 | 73 | 11 | 0 | 0 | 6 | 84 | 11 | 1.072 | |
| BNC41-9 | 371 | 330 90 | 6 | 36 | 49 | 4 | 0 | 5 | 89 | 53 | 1.073 | |
| BNC47-1 | 248 | 223 61 | 9 | 62 | 28 | 0 | 0 | 1 | 90 | 28 | 1.068 | |
| Chieftain | 337 | 297 101 | 4 | 34 | 52 | 2 | 0 | 8 | 88 | 54 | 1.059 | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill² Size 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 = all defective potatoes.³ Determined by weight in air/water method.

Table 12b. Continued.

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|--------------------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| B2509-2 | 8 | 8 | 8 | 6 | 5 | 3 | 7 | 7 | 7 | 9 | 5 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | MS,HS |
| B2514-14 | 9 | 8 | 9 | 7 | 5 | 2 | 6 | 8 | 9 | 8 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | GC,SR,MS |
| B2527-6 | 6 | 7 | 8 | 5 | 7 | 7 | 4 | 7 | 2 | 7 | 3 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | SG,SS,YF2 |
| B2528-2 | 6 | 8 | 8 | 5 | 3 | 7 | 5 | 7 | 2 | 7 | 5 | 8 | 4 | 0 | 9 | 0 | 0 | 40 | 0 | SS,SR |
| B2528-3 | 6 | 8 | 8 | 4 | 3 | 7 | 5 | 7 | 2 | 7 | 4 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 50 | MS,SS,SR |
| B2529-3 | 8 | 2 | 8 | 3 | 3 | 7 | 7 | 6 | 1 | 8 | 2 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | GC,SG |
| B2529-4 | 6 | 8 | 8 | 6 | 3 | 8 | 5 | 7 | 7 | 8 | 7 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 20 | PTS,SS,GC |
| B2530-2 | 9 | 8 | 8 | 4 | 7 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 5 | 40 | 7 | 0 | 90 | 0 | 20 | RZ,MS,SS,SG,GC,HN(1-8,2-7,1-6) |
| B2533-1 | 6 | 8 | 8 | 6 | 7 | 8 | 6 | 8 | 5 | 8 | 3 | 7 | 6 | 10 | 8 | 0 | 0 | 0 | 10 | SS,SCB, YF2 |
| B2533-3 | 9 | 8 | 8 | 5 | 7 | 7 | 8 | 8 | 2 | 6 | 4 | 8 | 2 | 0 | 9 | 0 | 0 | 0 | 0 | ^SG,SS,^HS,SR,MS, YF2 |
| B2533-6 | 9 | 8 | 6 | 5 | 7 | 7 | 5 | 8 | 1 | 6 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | SS,SG,FS,MS, YF2 |
| BCO01283-3 | 9 | 8 | 8 | 5 | 2 | 7 | 5 | 6 | 4 | 8 | 5 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | ^GC,SS,MS,SR |
| BCO01371-2 | 6 | 8 | 8 | 5 | 2 | 8 | 5 | 6 | 5 | 8 | 3 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | PTS,GC,EL |
| BCO01389-1 | 6 | 8 | 8 | 5 | 2 | 7 | 4 | 7 | 3 | 7 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | ^SS,MS,GC |
| BCO01398-1 | 8 | 8 | 8 | 5 | 3 | 8 | 4 | 7 | 4 | 8 | 6 | 6 | 3 | 0 | 9 | 0 | 0 | 0 | 0 | EL,SR,GC,RZ |
| BCO01401-2 | 9 | 8 | 8 | 5 | 1 | 6 | 4 | 6 | 2 | 8 | 3 | 8 | 4 | 0 | 9 | 0 | 40 | 0 | 0 | RZ,MS,YF1 |
| BNC41-13 | 6 | 8 | 8 | 7 | 6 | 5 | 6 | 6 | 3 | 7 | 5 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 50 | EL,RZ,SR |
| BNC41-4 | 9 | 7 | 6 | 6 | 6 | 5 | 6 | 6 | 5 | 7 | 6 | 8 | 8 | 0 | 9 | 0 | 0 | 0 | 20 | SS,RZ |
| BNC41-8 | 6 | 3 | 8 | 3 | 9 | 7 | 7 | 7 | 3 | 8 | 3 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 10 | SS,SR |
| BNC41-9 | 8 | 7 | 8 | 5 | 6 | 5 | 7 | 6 | 3 | 7 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | RZ,GC |
| BNC47-1 | 6 | 7 | 8 | 4 | 6 | 5 | 7 | 5 | 1 | 7 | 4 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 60 | SR,RZ |
| Chieftain | 8 | 8 | 8 | 6 | 3 | 7 | 6 | 5 | 3 | 6 | 7 | 8 | 5 | 15 | 7.8 | 0 | 0 | 0 | 5 | GC,HS,MS,SS,SG,HN(4-8,1-7,1-6) |

¹ DAP = Days After Planting; DVK = Days to Vine Kill² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot⁴ See Appendix 3 for Comment Codes

Table 12a. Continued.

| Clone | Total Yield cwt/A | Marketable Yield cwt/A | % Atlantic | Size Dist. by Class (%) ² (% of total yield) | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ³ |
|-------------------------|----------------------|---------------------------|------------|--|-----|-----|-----|-----|--------|----------------|----------------|----------------------------------|
| | | | | 1's | 2's | 3's | 4's | 5's | Cull's | | | |
| Dark Red Norland | 259 | 203 | 69 | 3 | 28 | 49 | 1 | 0 | 19 | 78 | 50 | 1.057 |
| NY137 | 340 | 314 | 141 | 5 | 53 | 40 | 0 | 0 | 3 | 92 | 40 | 1.056 |
| NYA37-12 | 332 | 308 | 138 | 3 | 28 | 65 | 0 | 0 | 5 | 93 | 65 | 1.077 |
| NYB23-18 | 304 | 276 | 124 | 7 | 52 | 39 | 0 | 0 | 2 | 91 | 39 | 1.070 |
| NYB23-73 | 311 | 266 | 119 | 12 | 45 | 41 | 0 | 0 | 3 | 85 | 41 | 1.075 |
| NYB38-14 | 388 | 370 | 166 | 2 | 34 | 60 | 1 | 0 | 3 | 95 | 62 | 1.062 |
| NYB38-37 | 318 | 306 | 137 | 3 | 23 | 68 | 5 | 0 | 1 | 96 | 73 | 1.061 |
| NYB38-40 | 305 | 271 | 122 | 4 | 35 | 54 | 0 | 0 | 7 | 89 | 54 | 1.058 |
| NYB41-9 | 416 | 378 | 170 | 2 | 16 | 72 | 3 | 0 | 7 | 91 | 75 | 1.070 |
| NYB45-6 | 441 | 400 | 179 | 1 | 31 | 55 | 5 | 2 | 6 | 91 | 60 | 1.075 |
| NYB87-3 | 344 | 225 | 101 | 2 | 20 | 45 | 0 | 0 | 32 | 65 | 45 | 1.070 |
| YYY41-67 | 290 | 261 | 117 | 4 | 25 | 63 | 3 | 0 | 6 | 90 | 65 | 1.065 |
| YYY69-12 | 315 | 270 | 121 | 5 | 42 | 43 | 0 | 0 | 9 | 86 | 43 | 1.074 |
| Snowden | 350 | 314 | 106 | 5 | 35 | 51 | 3 | 0 | 5 | 90 | 54 | 1.072 |
| Superior | 378 | 349 | 117 | 3 | 22 | 68 | 3 | 0 | 5 | 92 | 70 | 1.069 |
| Grand Mean | 324 | 277 | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill² Size 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 = all defective potatoes.³ Determined by weight in air/water method.

Table 12b. Continued.

| Clone | Plant Data ² | | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | Comments ⁴ |
|-------------------------|-------------------------|-----|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|-----------------------|
| | TYPE | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | |
| Dark Red Norland | 5 | 8 | 8 | 4 | 2 | 8 | 5 | 7 | 5 | 8 | 8 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 13 | ^GC,SG,SS,SR,HS,MS |
| NY137 | 9 | 8 | 8 | 5 | 9 | 6 | 5 | 6 | 5 | 7 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | SR,FS,MS |
| NYA37-12 | 9 | 8 | 7 | 7 | 8 | 7 | 4 | 7 | 4 | 7 | 6 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 10 | ^IL-RZ,MS |
| NYB23-18 | 6 | 7 | 6 | 5 | 6 | 6 | 6 | 7 | 2 | 6 | 5 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | GC,SS,MS |
| NYB23-73 | 6 | 8 | 8 | 6 | 9 | 7 | 5 | 7 | 2 | 8 | 4 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 10 | SS,SS,MS,SR |
| NYB38-14 | 6 | 7 | 7 | 4 | 9 | 6 | 5 | 6 | 3 | 7 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | PTS,MS,GC,~DAE |
| NYB38-37 | 6 | 7 | 7 | 4 | 9 | 6 | 7 | 6 | 2 | 7 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 0 | EL,SS,SR |
| NYB38-40 | 6 | 6 | 6 | 4 | 8 | 8 | 6 | 5 | 3 | 8 | 6 | 7 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | SR,SS,RZ,EL,GC,IL-RZ |
| NYB41-9 | 6 | 8 | 7 | 7 | 6 | 5 | 5 | 5 | 2 | 8 | 7 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 10 | SS,MS,RZ,SR |
| NYB45-6 | 6 | 8 | 8 | 7 | 8 | 7 | 5 | 4 | 4 | 6 | 7 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 20 | SR,GC,MS |
| NYB87-3 | 6 | 8 | 8 | 6 | 6 | 5 | 7 | 5 | 3 | 7 | 6 | 6 | 3 | 0 | 9 | 0 | 0 | 0 | 30 | ^GC,MS,RZ |
| YYY41-67 | 9 | 8 | 8 | 6 | 6 | 7 | 6 | 6 | 5 | 7 | 8 | 8 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | MS,GC,SS,HS |
| YYY69-12 | 9 | 8 | 8 | 7 | 6 | 7 | 7 | 7 | 1 | 7 | 5 | 7 | 4 | 0 | 9 | 0 | 0 | 0 | 50 | MS,SR,^GC,SG |
| Snowden | 6 | 8 | 8 | 7 | 6 | 5 | 3 | 7 | 2 | 4 | 5 | 8 | 5 | 3 | 8.5 | 0 | 0 | 0 | 5 | SS,EL,FS,DAE,DSE,MS |
| Superior | 7 | 8 | 8 | 5 | 6 | 7 | 4 | 6 | 5 | 7 | 7 | 8 | 4 | 0 | 9 | 0 | 0 | 15 | 8 | MS,SS,SG,GC,SR,CS,RZ |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Table 13a. Early Generation Yield Trial. Total and marketable yield, percentage of total yield by size class, specific gravity, and chip scores of potato clones harvested 114 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | Selection Location & Year ² | | | Total Yield cwt/A | Marketable Yield | | Size Distribution by Class ³ (% of total yield) | | | | | | | 1 7/8 to 4" | 2 1/2 to 4" | Specific Gravity ⁴ | Chip Color ⁵ | |
|------------|---|------|------|----------------------|------------------|--------|---|-----|-----|-----|-----|-------|-----------------|----------------|----------------|----------------------------------|-------------------------|--|
| | 2001 | 2002 | 2003 | | cwt/A | % Atl. | 1's | 2's | 3's | 4's | 5's | Culls | 24 to 48 hrs | | | | 5 to 7 Days | |
| Atlantic | N/A | N/A | N/A | 301 | 285 | 100 | 2 | 21 | 68 | 6 | 0 | 3 | 95 | 74 | 1.081 | 1 | 2 | |
| B2272-22 | ME | NC | NC | 266 | 235 | 84 | 4 | 27 | 60 | 2 | 0 | 8 | 88 | 61 | 1.065 | 2 | 3 | |
| B2273-75 | NC | N/M | NC | 338 | 303 | 108 | 5 | 23 | 62 | 5 | 0 | 5 | 90 | 67 | 1.069 | 3 | 3 | |
| B2280-134 | NC | NC | NC | 234 | 219 | 79 | 4 | 45 | 48 | 0 | 0 | 3 | 94 | 48 | 1.066 | 2 | 2 | |
| B2280-86 | NC | NC | NC | 245 | 232 | 83 | 4 | 40 | 54 | 0 | 0 | 2 | 94 | 54 | 1.072 | 2 | 2 | |
| B2287-23 | NC | N/M | NC | 272 | 261 | 93 | 0 | 10 | 61 | 25 | 0 | 3 | 96 | 86 | 1.067 | 3 | 3 | |
| B2287-38 | NC | ME | ME | 344 | 320 | 113 | 2 | 38 | 55 | 1 | 0 | 4 | 93 | 56 | 1.064 | 4 | 4 | |
| B2290-9 | ME | NC | NC | 322 | 283 | 102 | 7 | 59 | 29 | 0 | 0 | 5 | 88 | 29 | 1.085 | 1 | 2 | |
| B2293-156 | ME | ME | ME | 257 | 217 | 77 | 6 | 44 | 41 | 0 | 0 | 9 | 85 | 41 | 1.059 | 2 | 2 | |
| B2293-34 | NC | ME | ME | 293 | 272 | 97 | 3 | 68 | 25 | 0 | 0 | 4 | 93 | 25 | 1.064 | 3 | 3 | |
| Snowden | N/A | N/A | N/A | 320 | 308 | 110 | 3 | 44 | 52 | 0 | 0 | 1 | 96 | 52 | 1.077 | 1 | 2 | |
| Superior | N/A | N/A | N/A | 280 | 255 | 91 | 3 | 32 | 59 | 1 | 0 | 6 | 91 | 60 | 1.070 | 3 | 4 | |
| Grand Mean | | | | 289 | 266 | | | | | | | | | | | | | |
| CV(%) | | | | 13 | 14 | | | | | | | | | | | | | |
| LSD(K=100) | | | | 59.2 | 56.1 | | | | | | | | | | | | | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² NC = North Carolina; ME = Maine; N/M = Selected at both locations

³ Size 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 = all defective potatoes.

⁴ Determined by weight in air/water method.

⁵ Chip Color Ratings conducted by the NCSU Potato Breeding Program at the TRS/VGJREC:

1 = no defects, exceptionally bright; 2 = excellent, bright; 3 = good, light or golden; 4 = dark defects, marginal; 5 = not acceptable.

Table 13b. Early Generation Trial. Plant vine type, disease and air pollution scores, maturity at ca. 3 weeks prior to harvest, and external and internal tuber attributes of potato clones harvested 114 DAP¹ at the NCSU VGJREC/NCDA TRS, Plymouth, Washington Co., NC – 2006

| Clone | TYPE | Plant Data ² | | | Tuber Data ² | | | | | | | | | % Internal Defects ³ | | | | | | | Comments ⁴ |
|-----------|------|-------------------------|------|-----|-------------------------|-----|-----|-----|-----|-----|------|-----|-----|---------------------------------|-----|----|----|----|----|----------------------------|-----------------------|
| | | DIS | POLL | MAT | CLR | TXT | TCX | TSS | SHP | EYE | SIZE | DIS | APP | HN | HNR | HH | VR | BC | SR | | |
| Atlantic | 7 | 8 | 8 | 5 | 6 | 5 | 7 | 7 | 2 | 5 | 7 | 8 | 7 | 45 | 7.5 | 13 | 0 | 13 | 8 | GC,MS,HN(11-8,3-7,2-6,2-5) | |
| B2272-22 | 8 | 7 | 8 | 4 | 6 | 5 | 7 | 6 | 3 | 7 | 7 | 4 | 3 | 0 | 9 | 0 | 0 | 0 | 5 | SR,^IL-RZ,GC,^RZ,MS,SC | |
| B2273-75 | 7 | 8 | 8 | 6 | 6 | 5 | 7 | 7 | 2 | 7 | 7 | 8 | 6 | 18 | 7.8 | 0 | 0 | 10 | 33 | ^SS,GC,MS,HS,SR,YF1 | |
| B2280-134 | 6 | 8 | 6 | 6 | 6 | 5 | 7 | 5 | 2 | 8 | 3 | 8 | 6 | 0 | 9 | 3 | 0 | 3 | 3 | CS,SS,SR | |
| B2280-86 | 8 | 8 | 8 | 5 | 9 | 6 | 7 | 6 | 2 | 8 | 6 | 8 | 7 | 0 | 9 | 10 | 0 | 13 | 13 | CS,SS,SR,AC,FS,STST | |
| B2287-23 | 8 | 8 | 8 | 6 | 6 | 6 | 7 | 6 | 5 | 8 | 9 | 8 | 7 | 0 | 9 | 0 | 0 | 0 | 10 | SR,EL,GC,SS,MS | |
| B2287-38 | 6 | 8 | 8 | 5 | 9 | 7 | 6 | 6 | 6 | 8 | 7 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 25 | SR,MS,RZ,SS | |
| B2290-9 | 8 | 8 | 8 | 6 | 6 | 5 | 7 | 5 | 3 | 7 | 6 | 8 | 5 | 3 | 8.5 | 20 | 0 | 30 | 25 | EL,^AC,SS | |
| B2293-156 | 8 | 8 | 8 | 5 | 5 | 5 | 6 | 7 | 4 | 8 | 6 | 8 | 4 | 0 | 9 | 0 | 0 | 0 | 10 | HS,^SS,GC,SR,MS,^IL-RZ | |
| B2293-34 | 7 | 8 | 7 | 4 | 6 | 6 | 5 | 7 | 6 | 8 | 6 | 7 | 5 | 0 | 9 | 0 | 0 | 0 | 28 | CS,MS,HS,SR | |
| Snowden | 8 | 8 | 7 | 6 | 5 | 5 | 7 | 7 | 2 | 5 | 6 | 8 | 6 | 0 | 9 | 0 | 0 | 0 | 15 | SS,GC,MS,DAE,DSE | |
| Superior | 5 | 8 | 8 | 4 | 6 | 6 | 7 | 7 | 4 | 6 | 6 | 7 | 5 | 0 | 9 | 0 | 0 | 18 | 8 | MS,SR,SS | |

¹ DAP = Days After Planting; DVK = Days to Vine Kill

² See NE1014 Standard Potato Rating System for key to scores in Appendix 2.

³ Percentage determined from 10 randomly selected potatoes /rep (40 total) in size classes 3 and 4. HN=heat necrosis; HNR=average heat necrosis rating (Rating Scale: 1= very severe to 9 = absent); HH=hollow heart; VR=vascular ring discoloration; BC=brown center; SR=soft rot

⁴ See Appendix 3 for Comment Codes

Appendix 1: LAND MANAGEMENT CONDITIONS

Location: Black Gold Farms, Gum Neck, Tyrrell Co., NC

Trial Title: Black Gold Farms Variety Trial

Trial Design: Randomized complete block, four replications

Plot Dimensions: Sixteen 21' rows at 34' row spacing, 28 hills per row

Seed piece Treatment: None

Weed Control: Metri DF .51 lbs/A
Dual Magnum 1.42 pts/A

Fertilizer: 211 lbs N, 97 lbs P, 151 lbs K, 1 lb Zn

Insect Control: Baythroid 2 oz/A

Actara 1.5 oz/A

Disease Control: Manzate 75DF 2 lbs/A

Irrigation: None

Vine Kill: None

Location: Black Gold Farms, Gum Neck, Tyrrell Co., NC

Trial Title: Snack Food Association Trial

Trial Design: Randomized complete block, five replications

Plot Dimensions: Twelve 21' rows at 34' row spacing, 28 hills per row

Seed piece Treatment: None

Weed Control: Metri DF .51 lbs/A
Dual Magnum 1.42 pts/A

Fertilizer: 211 lbs N, 97 lbs P, 151 lbs K, 1 lb Zn

Insect Control: Baythroid 2 oz/A

Actara 1.5 oz/A

Disease Control: Manzate 75DF 2 lbs/A

Irrigation: None

Vine Kill: None

Location: James Brother's Farms, Weeksville, Pasquotank Co., NC

Trial Design: Randomized complete block, four replications

Plot Dimensions: Twenty 21' rows at 40' row spacing, 28 hills per row

Seed piece Treatment: None

Weed Control: Sencor 1/2 lbs/A
Dual 1pt/A
Matrix 1 oz/A

Fertilizer: 180 units N: 16-8-8 broadcast

Insect Control: Leverage 3.75 oz/A

Disease Control: Dithane 0.5 lbs/A

Irrigation: None

Vine Kill: Relay 3pt/A

Location: McCotter Farms, Mesic, Pamlico Co., NC

Trial Design: Randomized complete block, four replications

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

Seed piece Treatment: None

Weed Control: Sencor 1.3lbs/A
Select 8 oz/A

Fertilizer: 120 lbs N, 0 lbs P, 160 lbs K (pre-plant)
35 lbs N, 35 lbs P, 0 lbs K

Insect Control: Thimet 20 oz/A (at planting)
Spintor 6 oz/A

Disease Control: Ridomil 2 lbs/A
Quadris 11 fl oz/A

Irrigation: 3 applications 0.7"

Vine Kill: None

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

Location: Waters Produce, Chocowinity, Beaufort Co., NC

Trial Design: Randomized complete block, four replications

Plot Dimensions: Six 21' rows at 40' row spacing, 28 hills per row

Seed piece Treatment: TopsMZ

Weed Control: None

Fertilizer: 800 lbs 6-6-18 (pre-plant)
650 lbs 15-0-4 (side-dress)

Insect Control: Provado 3.75 oz/A
Perm-Up 8 oz/A

Disease Control: None

Irrigation: None

Vine Kill: None

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

Trial Title: Specialty Crops Variety Trial

Trial Design: Randomized complete block, four replications

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

Seed piece Treatment: None

Weed Control: Dual Magnum 1.5pt/A pre-emergence
Sencor DF 1lb/A pre-emergence

Fertilizer: 694lbs, 18-18-18 broadcast
30-0-0 25gal
30-0-0 8 gal (post-emergence)

Insect Control: Admire 2F 17oz/A
Sevin XLR 1Pt/A

Disease Control: Bravo Weatherstik 1.5pt/A

Irrigation: None

Vine Kill: None

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

Trial Title: Round White Variety Trial One

Trial Design: Randomized complete block, four replications

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

Seed piece Treatment: None

Weed Control: Dual Magnum 1.5pt/A pre-emergence
Sencor DF 1lb/A pre-emergence

Fertilizer: 694lbs, 18-18-18 broadcast
30-0-0 25gal
30-0-0 8 gal (post-emergence)

Insect Control: Admire 2F 17oz/A
Sevin XLR 1Pt/A

Disease Control: Bravo Weatherstik 1.5pt/A

Irrigation: None

Vine Kill: None

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

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-two 21' rows at 38' row spacing, 28 hills per row

Seed piece Treatment: None

Weed Control: Dual Magnum 1.5pt/A pre-emergence

Sencor DF 1lb/A pre-emergence

Fertilizer: 694lbs, 18-18-18 broadcast

30-0-0 25gal

30-0-0 8 gal (post-emergence)

Insect Control: Admire 2F 17oz/A

Sevin XLR 1Pt/A

Disease Control: Bravo Weatherstik 1.5pt/A

Irrigation: None

Vine Kill: None

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

Trial Title: Round White Variety Trial Three

Trial Design: Randomized complete block, four replications

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

Seed piece Treatment: None

Weed Control: Dual Magnum 1.5pt/A pre-emergence

Sencor DF 1lb/A pre-emergence

Fertilizer: 694lbs, 18-18-18 broadcast

30-0-0 25gal

30-0-0 8 gal (post-emergence)

Insect Control: Admire 2F 17oz/A

Sevin XLR 1Pt/A

Disease Control: Bravo Weatherstik 1.5pt/A

Irrigation: None

Vine Kill: None

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

Trial Title: NE 10-14 White Variety Trial

Trial Design: Randomized complete block, four replications

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

Seed piece Treatment: None

Weed Control: Dual Magnum 1.5pt/A pre-emergence

Sencor DF 1lb/A pre-emergence

Fertilizer: 694lbs, 18-18-18 broadcast

30-0-0 25gal

30-0-0 8 gal (post-emergence)

Insect Control: Admire 2F 17oz/A

Sevin XLR 1Pt/A

Disease Control: Bravo Weatherstik 1.5pt/A

Irrigation: None

Vine Kill: None

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

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

Trial Title: NE 10-14 Red Variety Trial

Trial Design: Randomized complete block, four replications

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

Seed piece Treatment: None

Weed Control: Dual Magnum 1.5pt/A pre-emergence

Sencor DF 1lb/A pre-emergence

Fertilizer: 694lbs, 18-18-18 broadcast

30-0-0 25gal

30-0-0 8 gal (post-emergence)

Insect Control: Admire 2F 17oz/A

Sevin XLR 1Pt/A

Disease Control: Bravo Weatherstik 1.5pt/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: Thirty 21' rows at 38" row spacing, 28 hills per row

Seed piece Treatment: None

Weed Control: Dual Magnum 1.5pt/A pre-emergence

Sencor DF 1lb/A pre-emergence

Fertilizer: 694lbs, 18-18-18 broadcast

30-0-0 25gal

30-0-0 8 gal (post-emergence)

Insect Control: Admire 2F 17oz/A

Sevin XLR 1Pt/A

Disease Control: Bravo Weatherstik 1.5pt/A

Irrigation: None

Vine Kill: None

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

Trial Title: Early Generation Yield Trial

Trial Design: Randomized complete block, four replications

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

Seed piece Treatment: None

Weed Control: Dual Magnum 1.5pt/A pre-emergence

Sencor DF 1lb/A pre-emergence

Fertilizer: 694lbs, 18-18-18 broadcast

30-0-0 25gal

30-0-0 8 gal (post-emergence)

Insect Control: Admire 2F 17oz/A

Sevin XLR 1Pt/A

Disease Control: Bravo Weatherstik 1.5pt/A

Irrigation: None

Vine Kill: None

Appendix 2: STANDARDIZED NE1014 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: COMMENT CODES FOR TABLE B

AC=air cracks
BR=bruise
CPB=colorado potato beetle
CS=common scab
CT=chain tubers
DAE=deep apical eyes
DSE=deep stolen end
EB=early blight
ECB= European corn borer
EL= enlarged lenticels
FS=fusarium wilt
GC=growth cracks
HI= herbicide injury
HS=heat sprouts;
IL=infected lenticels
LB=late blight
LHD=leaf hopper damage
MS=misshaped tubers
PE=pink eye
PR=pink rot
PLRV=potato leaf roll virus
PTS=very pointed tubers
PS=powdery scab
PVA, PVX, PVY=potato viruses A, X, Y
RF=red flesh (RF scale: 1=light red to 3=dark red)
RZ=Rhizoctonia
SEB=stem end browning
SC = star cracking
SG=secondary growth
SIS=silver scurf
SKN=skins
SS=sun scald
SR=soft rot
STST=sticky stolens
TSWV=Tomato Spotted Wilt Virus
VW=Verticillium wilt
WSTD=weak stand
WW=wire worm
YF=yellow flesh (YF scale: 1=light yellow to 3=dark yellow)

Note: ^ before code = high levels; ^^ = very high; ~ = moderate or some