

## RESEARCH PROGRESS REPORT FOR 1984

Submitted by  
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Research conducted in 1984 included the following:

- a) Potato breeding;
- b) seedling selection and clonal development;
- c) Sangre selection studies;
- d) streptomycin-oxytetracycline seedpiece treatment (in cooperation with Rob Davidson);
- e) clonal nitrogen-use efficiency;
- f) a study to determine what effect water stress at the time of tuberization has on tuber set, yield, and grade; and,
- g) binding studies to develop a testing procedure to rate susceptibility of potato clones to blackleg (in cooperation with Rob Davidson).

### POTATO BREEDING

Characteristics being emphasized in our program are yield, specific gravity, russeting, and fresh market/processing qualities. Thirty parental clones were selected for crossing in 1984. Seeds from 308 combinations were obtained. Sixty-one seedling families were grown in the greenhouse, producing 12,632 tubers for initial selection in 1985. Surplus tubers were distributed to Idaho, Oregon, and Minnesota.

Seedling tubers were obtained from Dr. R. E. Webb, Beltsville, Maryland, Dr. J. J. Pavek, Aberdeen, Idaho, Dr. R. E. Voss, Davis, California, and Dr. J. Creighton Miller, Lubbock, Texas. The California seedlings were produced from true seed obtained from Colorado.

### SEEDLING SELECTION AND CLONAL DEVELOPMENT

A total of 43,700 first-year seedlings were planted, with 585 being selected for further observation. Another 686 clones were in various stages of preliminary testing. One hundred forty-nine of these clones were saved for further evaluation. Eleven advanced selections were tested and nine were saved for increase and continued evaluation. Another 91 potato clones are being maintained for breeding or other experimental purposes.

*Advanced Yield Trial.* Sixteen entries, 11 advanced selections and five cultivars, were planted in the advanced yield trial. Data collected on yield, grade, specific gravity, stand, vine maturity, tuber shape, and skin type are presented in Table 1. Information collected on grade defects is presented in Table 2.

Russet selections showing promise and meriting further testing are: A72685-2, AC77149-2, AC77513-1, AD74135-1, BC9668-1, WNC285-18 and WNC567-1.

A72685-2 is an Idaho selection which has performed quite well the last four years. It may be named and released for production in the near future. Results of a commercial market test are presented in Table 3.

AD74135-1 is a California selection from Idaho material. It has a high yield potential. Selection AC77513-1 will be entered in the WRCC-27 trials in 1985. Data are being summarized to name and release WNC285-18 in 1985.

White selections showing promise that will undergo further testing are: A70369-2, BR7093-24, and TXA17-1. These selections have chipping potential.

Chipping and Processing Studies. Sixty-eight clones in our program were evaluated for chipping potential in the fall (October 9) by Clover Club Foods Company. Clones with acceptable color in the fall were retested on January 16 after being stored at 50°F. Data for the clones which were chipped on both dates are presented in Table 4.

Another chipping study was conducted at the San Luis Valley Research Center. Eight selections and two standard cultivars were tested at harvest and after various storage regimes. Specific gravity was determined at harvest. This data is summarized in Table 5.

None of these clones chipped satisfactorily directly out of 40°F storage or with reconditioning at 70°F for two weeks. Atlantic, Norchip, A70369-2, BR7093-24, and TXA17-1 produced acceptable chips under most other storage regimes, however. Both WNC521-12 and WNC672-2 produced acceptable chips at harvest and after a three week storage period at 70°F. These two clones have undergone several commercial tests which indicate the same. Both of these clones will probably be discarded pending the results of a few more tests.

Western Regional Trial. The purpose of the Western Regional Trials is to provide a method to uniformly test advanced potato selections in the Western United States.

Twelve advanced selections and four standard cultivars were tested. Tables 6 and 7 summarize the data collected on these clones. A7411-2 was rated as the overall best entry. Other clones receiving a merit rating were: A74133-1, TC582-1, A74212-1, and A74114-4. A74212-1 was rated number 1 in 1982 and 1983.

California Tests. Each year several advanced potato selections are sent to California for evaluation. These clones are evaluated in observational trials and replicated yield trials. The yield trials are conducted by the University of California. These tests were located at Johnston Farms. Results of the replicated yield trials are presented in Table 8. Three clones (AC77513-1, AC77514-1, and TC582-1) yielded more than Centennial Russet. AC77514-1 has been discarded from our program due to hollow heart.

Grower Tests. Two russet selections, TC582-1 and WNC567-1, will be released for seed increase and evaluation in 1985. Data on these clones are presented in Table 9. Both of these clones have generally performed better than Centennial Russet and Russet Burbank.

Clone Bank. During the last year, emphasis has been placed on developing a virus-tested clone bank. Table 10 is a listing of the clones currently in the collection or undergoing testing.

## SANGRE SELECTION STUDIES

Seventeen line selections of Sangre were made from our tuber-unit seed lot in 1982. Seven selections were made for typical vine and 10 for larger vines. Progeny rows of each selection were grown for observational purposes in 1983. In 1984 a comparative performance trial was conducted. Data were collected on yield, grade, stand, vigor, plant height, and vine maturity. Results of this study are presented in Table 11.

Clones 6, 9, and 13 were considered to be inferior to the standard based on yield and grade. These clones lacked early season vigor, had much taller vines, flowered profusely, were later maturing, and had rougher tubers. They appeared to be typical giant hill plants.

Clones 10, 11 and 14 had greater total and U. S. No. 1 yields than the standard clone. These clones were slightly less vigorous early in the season, had taller vines, and were later maturing.

## STREPTOMYCIN-OXYTETRACYCLINE SEEDPIECE TREATMENT

This study is being done cooperatively with Rob Davidson. Funding for this experiment was not requested last year.

Potato seed of clone WNC521-12 (very susceptible to blackleg) was treated with a 250 ppm solution of streptomycin-oxytetracycline in 1983. Seed planted in 1984 was re-treated. Table 12 presents the results of this study.

Yield was not affected by treatment. Stand was significantly greater for treated (99%) versus untreated (94%) cut seed. There were no significant stand differences in the whole seed plots due to treatment.

Mist chamber studies also indicated a lower level of blackleg infection for both whole and cut seed when treated with streptomycin-oxytetracycline.

## CLONAL NITROGEN-USE EFFICIENCY

The yield response of three potato clones (WNC567-1, Nooksack and Russet Burbank) to nitrogen application was evaluated by yield component analysis. This information is useful as we try to develop potato clones which utilize nitrogen efficiently.

Nitrogen was applied at rates of 0, 70 and 140 pounds per acre. Data were collected on total yield, tuber number, and stem number/plant. From this data, average tuber weight and tuber number per stem were calculated. These results are presented in Table 13.

All clones responded similarly to nitrogen application. Stem number per plant was not affected by nitrogen application. Average tuber weight increased with increasing nitrogen rate. Tuber number per stem increased with 70 pounds of nitrogen per acre. Thus, increases in yield observed by applying 70 pounds of nitrogen were associated with both increased tuber weight and tuber number per stem. Additional increases in yield in response to 140 pounds of nitrogen were primarily related to increased tuber weight.

## WATER STRESS X TUBERIZATION

This is the third and final year of a study designed to evaluate the effect of water stress at tuber initiation on tuber set, yield and grade of Centennial Russet and Russet Burbank.

Again in 1984, as in 1982 and 1983, a single irrigation was eliminated at the time of tuberization. Generally, results in 1984 parallel those of 1982. Water stress resulted in a significant decrease in total yield and yield of U. S. No. 1 potatoes (Table 14).

The bottom line for this three-year study is that there was no benefit from stressing potatoes at tuber initiation in terms of total yield and yield of U. S. No. 1 potatoes. However, tuber number per plant decreased and tuber weight increased for Russet Burbank each year in response to stress.

## BINDING STUDIES

This study is being done cooperatively with Rob Davidson. This work has not been completed and hence will be reported later.

Table 1. Yield, grade, specific gravity, stand, vine maturity, tuber shape and skin type for advanced yield trial clones.

Clone	Total Yield		U.S.No.1 Yield		U.S.No.1 %		U.S.No.1 >10 oz Yield		U.S.No.1 <4 oz. Yield		U.S.No.2 & Culls Yield		Specific Gravity	Stand %	Vine Maturity <sup>1/</sup>	Tuber Shape <sup>2/</sup> & Skin Type
	Cwt/A	Yield	Cwt/A	Yield	%	Yield	Yield	Yield	Yield	Yield	Yield					
A70369-2	381	251	65.3	12	124	6	1.099	100	2.0	Ob-Ov,W						
A72685-2	404	312	77.5	42	87	5	1.095	99	3.0	Ob,R						
AC77149-2	301	235	78.2	24	62	4	1.084	97	2.3	Ob,R						
AC77513-1	349	261	74.8	26	75	13	1.099	96	3.8	Ob-L,R						
AC77514-1	380	312	82.1	30	50	18	1.097	99	3.0	Ob-L,R						
AD74135-1	449	355	78.9	49	71	23	1.095	100	3.3	Ob-L,R						
BC9668-1	340	269	79.0	31	62	10	1.082	98	2.0	Ob,R						
BR7093-24	411	356	86.6	79	50	5	1.099	91	3.8	R,W						
TXA17-1	372	288	77.3	24	61	22	1.091	98	3.3	R,W						
WNC285-18	313	241	77.0	22	67	6	1.098	100	3.8	Ob,R						
WNC567-1	375	302	80.7	45	64	9	1.089	96	2.3	Ob-L,R						
Centennial Russet	297	220	74.0	16	68	10	1.086	97	2.8	Ob-Ov,R						
Nooksack	248	211	85.3	49	16	21	1.106	98	4.3	Ob,R						
Norchip	356	274	77.2	19	71	10	1.089	98	1.5	R,W						
Russette	319	255	80.0	10	57	7	1.102	99	2.5	Ob,R						
Russet Burbank	387	283	72.5	42	88	16	1.089	99	2.0	L,R						
Mean	355	277	77.9	32	67	11	1.094	98	2.8							
LSD(0.05)	44	48	7.5	23	22	12	-	4	0.6							

<sup>1/</sup>Vine maturity is based on the amount of dead foliage on August 27: 1 = Very Early; 2 = Early; 3 = Medium; 4 = Late; 5 = Very Late.

<sup>2/</sup>Tuber Shape: R = Round; Ov = Oval; Ob = Oblong; L = Long.  
Skin Type: R = Russet; W = White.

Table 2. Grade defects for advanced yield trial clones.

Clone	External <sup>1/</sup>	Type of External <sup>2/</sup>	Hollow <sup>3/</sup>
	Defects — % —	Defects Observed	Heart — % —
A70369-2	1.5	GC*, SG, MS*	-
A72685-2	1.2	MS*, GR	-
AC77149-2	1.5	GC*, MS	0.4
AC77513-1	3.6	GC*, SG, MS	1.2
AC77514-1	4.6	GC, MS*	2.1
AD74135-1	5.1	GC, SG, MS*	-
BC9668-1	2.5	GC*, MS	0.9
BR7093-24	1.1	MS, GR*	3.6
TXA17-1	6.0	MS, GR*	1.0
WNC285-18	1.7	GC, MS*, AH*	-
WNC567-1	2.4	GC*, SG, MS, AH	-
Centennial Russet	3.3	GC, MS*	1.3
Nooksack	8.3	GC*, SG, MS	-
Norchip	3.0	GC, MS*, GR	0.6
Russette	2.1	GC*, MS	-
Russet Burbank	4.1	GC, SG*	0.3

<sup>1/</sup> Percent external defects based on the proportion of the total sample weight with significant defects.

<sup>2/</sup> GC=Growth Crack; SG=Second Growth; MS=Misshapen; AH=Alligator Hide; GR=Green. Most prevalent defects for each clone are asterisked.

<sup>3/</sup> Percent hollow heart calculated as follows: (Weight of tubers >10 ounces with defect/total sample weight) x 100.

Table 3. Commercial market test results for A72685-2.

Yield	Cwt/A	%
Total	333	-
No. 1	282	84.7
No. 1 >10 oz	3	0.9
70-80 Count	21	6.3
90-100 Count	12	3.6
4-8 oz	246	73.9
No. 2	21	6.3
Culls	30	9.0

Table 4. Chip color evaluations conducted by Clover Club Foods Company.<sup>1/</sup>

Clone	Chip Color <sup>2/</sup>	
	Oct. 9 <sup>3/</sup>	Jan. 16 <sup>3/</sup>
CO81103-5	2.0	2.0
AC80545-1	2.0	2.5
BR7093-24	2.5	2.5
Norchip	3.0	2.0
CO81103-1	3.0	2.5
TXA17-1	3.0	2.5
Lenape	3.0	2.5
A70369-2	2.5	3.0
Atlantic	3.0	2.5
CO81103-2	3.0	2.5
WNC672-2	3.0	3.0
CO7918-15	2.5	3.5
CO8128-1	4.0	2.5
CO8014-2	3.5	4.0
AC80100-1	4.0	3.5
CO81104-3	3.5	4.5
CO8073-7	4.0	4.5
CO8107-2	4.0	4.5
AC80568-3	4.5	4.5
CO81117-1	4.0	5.0
CO80211-1	4.5	5.5
AC80561-2	4.0	6.0
CO8073-6	3.0	7.0
CO7917-11	4.5	6.0
AC81218-5	4.5	6.0
AC81218-3	3.5	7.0
CO8073-3	4.0	7.0

<sup>1/</sup>Data collected by Larry Anderson

<sup>2/</sup>Color was rated using the PCII 1-10 Scale. Ratings of 1-4 acceptable, 5 marginal.

<sup>3/</sup>Potatoes harvested September 3-5 and held at approximately 70°F until October 9; then stored at approximately 50°F until January 16.

Table 5. Color<sup>1/</sup> of chipping study entries.

Clone	At Harvest	3 wks @ 70°F	10 wks @ 40°F	10 wks @ 50°F	2 wks/70°F		Specific Gravity
					10 wks/40°F	10 wks/50°F	
Color							
A70369-2	2.0	2.0	5.0	2.5	4.0	1.0	1.094
AC80533-2	3.5	1.5	5.0	3.0	4.5	3.5	1.082
BC9955-1	2.5	1.0	5.0	3.0	4.5	3.0	1.096
BR7093-24	2.0	1.5	5.0	3.0	4.0	2.5	1.084
CO7920-3	2.5	2.5	5.0	3.0	5.0	3.0	1.094
TXA17-1	2.0	1.5	5.0	2.0	4.5	1.5	1.082
WNC521-12	2.0	2.0	5.0	3.5	4.0	4.0	1.092
WNC672-2	1.0	1.5	5.0	3.0	3.0	3.5	1.085
Atlantic	1.5	2.5	5.0	2.0	3.0	2.0	1.103
Norchip	2.5	2.0	5.0	2.5	4.0	1.0	1.090

<sup>1/</sup>Chip color was rated using the Potato Chip/Snack Food Association 1-5 scale. Ratings of 2.0 or less acceptable.

Table 6. Yield, grade, specific gravity, stand, maturity, tuber shape, skin type, and merit rating for Western Regional Trial Entries.

Clone	U.S.No.1		U.S.No.2		Specific Gravity	Stand %	Vine Maturity	Tuber Shape <sup>2/</sup> & Skin Type	Merit Rating <sup>3/</sup>
	Yield	%	Yield	%					
A69870-10	335	220	64.9	43	1.095	79	5.0	Ob,R	-
A7411-2	425	384	90.4	92	1.097	99	4.0	L,R	1
A74114-4	311	274	88.3	77	1.093	100	1.8	Ob,R	5
A74132-7	306	225	74.1	32	1.088	69	3.5	Ob,R	-
A74133-1	376	288	76.5	34	1.098	97	3.0	Ob-L,R	2
A74212-1	344	277	80.6	105	1.096	76	3.3	L-Ob,R	4
AC77652-1	267	214	79.9	30	1.080	80	2.3	Ob,R	-
ND534-4	242	205	84.7	42	1.080	90	1.0	L-Ob,R	-
NDD47-1	320	268	83.8	66	1.104	85	5.0	L-Ob,W	-
NDD277-2	320	255	79.7	48	1.098	95	4.3	R,W	-
TC582-1	381	259	68.0	37	1.107	99	4.3	Ob-L,R	3
78-LC1	294	230	78.6	11	1.083	99	2.0	L-Ob,R	-
Centennial Russet	332	256	77.2	17	1.091	99	3.5	Ob,R	-
Lemhi Russet	353	295	83.7	64	1.093	84	3.0	L-Ob,R	-
Norchip	355	292	82.5	27	1.089	99	2.0	R,W	-
Russet Burbank	389	281	72.2	45	1.096	98	2.8	L,R	-
Mean	334	264	79.1	48	1.093	90	3.2		
LSD(0.05)	49	42	6.2	27	-	11	0.6		

<sup>1/</sup> Vine maturity is based on the amount of dead foliage on August 27: 1 = Very Early; 2 = Early; 3 = Medium; 4 = Late; 5 = Very Late.

<sup>2/</sup> Tuber Shape: R = Round; Ob = Oblong; L = Long.  
Skin Type: R = Russet; W = White.

<sup>3/</sup> Merit Rating: 1 = Best.



Table 7. Grade defects for Western Regional Trial entries.

Clone	External <sup>1/</sup> Defects	Type of External <sup>2/</sup> Defects Observed	Hollow <sup>3/</sup> Heart
	— % —		— % —
A69870-10	10.6	GC*, MS, GR	3.5
A7411-2	2.0	MS*, GR	-
A74114-4	2.0	MS*, GR	0.9
A74132-7	1.6	MS*	-
A74133-1	3.6	GC, SG*, MS*	-
A74212-1	9.7	GC, SG*, MS, GR	-
AC77652-1	3.1	GC, MS*	2.5
ND534-4	2.8	SG, MS*	-
NDD47-1	4.7	SG, MS, GR*	0.7
NDD277-2	4.6	GC, MS*	0.5
TC582-1	2.3	SG*, MS*	0.7
78-LC1	1.0	SG, MS*	-
Centennial Russet	0.8	GC, MS*	-
Lemhi Russet	5.1	GC*, SG, MS	-
Norchip	3.7	GC, MS*	1.0
Russet Burbank	7.3	GC, SG*, MS	0.6

<sup>1/</sup>Percent external defects based on the proportion of the total sample weight with significant defects.

<sup>2/</sup>GC = Growth Crack; SG = Second Growth; MS = Misshapen; GR = Green. Most prevalent defects for each clone are asterisked.

<sup>3/</sup>Percent hollow heart calculated as follows: (Weight of tubers >10 ounces with defect/total sample weight) x 100.

Table 8. Yield (Total and U. S. No. 1), percent U. S. No. 1, and specific gravity, of Colorado selections and Centennial Russet grown in California - 1984<sup>1/</sup>.

Clone	Total Yield	U.S. No. 1 Yield	U. S. No. 1	Specific Gravity
	Cwt/A		%	
<u>2 x 20 Yield Trial</u>				
AC77149-1	275	240	87	1.078
AC77513-1	350	320	91	1.085
AC77514-1	345	330	96	1.085
AC77652-1	315	295	94	1.077
TC582-1	375	355	95	1.099
Centennial Russet	325	310	95	1.088
<u>Replicated Yield Trial</u>				
AC77652-1	230	210	91	1.062
TC582-1	425	400	94	1.090
Centennial Russet	335	310	93	1.063

<sup>1/</sup>Data supplied by Dr. R. E. Voss, University of California, Davis.

Table 9. Comparison of the numbered selections TC582-1 and WNC567-1 with Centennial Russet and Russet Burbank for yield and grade. Data is averaged for 1983 and 1984.

Clone	Total	U. S. No. 1	U. S.	External	Hollow
	Yield	Yield	No. 1	Defects <sup>1/</sup>	Heart <sup>2/</sup>
	Cwt/A		%	%	%
TC582-1	392	286	73.0	2.0	0.8
WNC567-1	371	292	78.8	4.0	-
Centennial Russet	345	273	79.0	1.9	1.0
Russet Burbank	378	251	66.4	9.2	0.5

<sup>1/</sup>Includes defects such as growth cracks, second growth, misshapen, and alligator hide.

<sup>2/</sup>Based on tubers greater than 10 ounces.

Table 10. Clone bank entries.

Clone	Number of Lines
A72685-2	2
A74212-1	2
AC77513-1	2
TC582-1	6
WNC230-14	2
WNC285-18	2
WNC521-12	1
WNC567-1	2
WNC672-2	1
41956	1
Atlantic	3
Blue Mac	1
Centennial Russet	2
Goldrus	1
Kennebec	2
Monona	8
Nooksack	8
Norchip	2
Norgold	2
Norland	1
Purple Viking	1
Rideau	1
Russette	1
Russet Burbank	2
Sangre	2
Targhee	1

Table 11. Yield, grade, stand, vigor, plant height, and vine maturity of 18 Sangre clones.

Clone	Total U.S.No.1		U.S.No.1		U.S.No.2		Cull Yield	Stand %	Vigor <sup>1/</sup> Rating	Plant Height - cm	Vine Maturity <sup>2/</sup>
	Yield	Cwt/A	Yield	%	Yield	Cwt/A					
1	394	325	42	82.4	1	68	0	98	3.8	54	1.5
2	390	324	51	83.0	5	62	0	98	3.0	56	1.5
3	386	331	43	85.4	4	50	2	98	2.8	56	2.3
4	414	345	62	83.3	1	67	1	99	2.8	58	1.8
5	407	358	100	87.9	3	45	1	99	3.0	56	1.8
6	394	319	78	81.1	19	46	9	100	2.3	85	4.8
7	432	366	95	84.7	12	53	1	100	2.5	76	4.5
8	439	371	82	84.4	11	54	2	100	2.3	69	3.5
9	353	274	69	77.7	13	60	6	93	1.8	79	4.3
10	458	401	120	87.5	8	47	2	98	3.3	67	3.5
11	482	404	116	83.7	3	65	10	99	3.0	69	3.8
12	407	360	92	88.2	6	41	0	98	2.8	68	3.3
13	398	318	65	79.7	5	74	1	99	2.0	80	4.8
14	465	409	130	88.0	10	44	2	97	2.8	68	3.3
15	424	356	82	84.1	8	60	0	99	3.0	64	3.0
16	395	338	55	85.5	3	54	1	100	3.0	53	1.3
17 <sup>3/</sup>	442	362	40	81.9	5	74	2	100	3.8	56	1.8
18 <sup>3/</sup>	435	386	132	88.7	8	39	2	100	3.8	56	1.8
Mean	417	353	81	84.3	7	56	2	99	2.8	65	2.9
LSD(0.05)	44	49	38	4.6	8	16	NS <sup>4/</sup>	2	0.9	4	0.8

<sup>1/</sup> 1 = Least vigor; 5 = Most vigor

<sup>2/</sup> Vine maturity is based on the amount of dead foliage on August 27: 1 = Very Early; 2 = Early; 3 = Medium; 4 = Late; 5 = Very Late.

<sup>3/</sup> Clone 18 is the standard Sangre produced at the San Luis Valley Research Center.

<sup>4/</sup> Not Significant.

Table 12. Yield, stand, and percent blackleg infection for clone WNC521-12 receiving a seed treatment of 250 ppm streptomycin-oxytetracycline.

Treatment	Total	Stand	Infection <sup>1/</sup>
	Yield		Sites <sup>1/</sup>
	Cwt/A	%	%
Whole Seed - Control	301	100	29.1
Whole Seed - Treated	331	98	20.4
Cut Seed - Control	307	94	28.0
Cut Seed - Treated	304	99	18.1
Mean	311	98	23.9
LSD (0.05)	NS <sup>2/</sup>	4	NS
(0.10)	NS	3	7.9

<sup>1/</sup> Mist chamber evaluation.

<sup>2/</sup> Not Significant.

Table 13. Influence of nitrogen application on total yield, average tuber weight, stem number per plant, and tuber number per stem for three potato clones.

Pounds N per Acre	Clone			Mean
	WNC567-1	Nooksack	Russet Burbank	
	Total Yield (Cwt/A)			
0	201	160	212	191
70	271	220	282	258
140	295	225	327	282
	Average Tuber Weight (oz)			
0	3.1	4.0	2.8	3.3
70	3.3	4.6	3.2	3.7
140	3.8	5.3	3.5	4.2
	Stem Number/Plant			
0	4.0	2.3	3.6	3.3
70	4.0	2.1	3.5	3.2
140	3.9	2.1	3.6	3.2
	Tuber Number/Stem			
0	1.9	2.0	2.2	2.0
70	2.2	2.4	2.7	2.4
140	2.1	2.2	2.9	2.4

Table 14. Influence of water stress at tuberization on yield, grade, and tuber characteristics of Centennial Russet and Russet Burbank - 1982-84 summary.

Cultivar	Year	Water Regime	
		Nonstressed	Stressed
		Yield (Cwt/A)	
Centennial Russet	1982	319	312
	1983	267	291
	1984	366	344
Russet Burbank	1982	389	346
	1983	345	317
	1984	407	371
		U.S. No. 1 Yield (%)	
Centennial Russet	1982	283 (88.8)	253 (81.0)
	1983	204 (76.0)	216 (74.1)
	1984	285 (77.8)	261 (75.9)
Russet Burbank	1982	260 (66.5)	232 (67.1)
	1983	205 (59.2)	202 (63.7)
	1984	286 (70.2)	265 (71.0)
		Average Tuber Wt. (oz)	
Centennial Russet	1982	5.8	5.4
	1983	4.7	4.7
	1984	4.5	4.3
Russet Burbank	1982	5.5	5.9
	1983	4.3	4.9
	1984	4.5	4.8
		Tuber Number/Plant	
Centennial Russet	1982	5.8	6.1
	1983	5.9	6.5
	1984	8.5	8.5
Russet Burbank	1982	7.4	6.1
	1983	8.3	6.9
	1984	9.4	8.1