

## THE POTATO SEED LOT TRIALS

Ken Waud  
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1963 marked the third year for the Potato Seed Lot Trials at the Othello Research Unit. The purpose of the trials has been to help Washington commercial potato producers evaluate potato seed purchased from the various potato seed producing areas.

The use of the best possible seed potatoes available still remains a very effective disease control measure.

Washington, particularly central Washington, potato growers demand and need seed potatoes that are capable of producing maximum yields and quality. Disease content is highly emphasized in certified potato seed. In addition to the current year's seed lot certification status, based on field inspection results, growers can and should check over and study:

1. winter test results, if available;
2. the seed growers past history over a 2 or more year period;
3. the seed growers record of performance in the results of the Othello Potato Seed Lot Trials.

The Othello Potato Seed Lot Trials have now been conducted for three years. Demands of Washington growers will result in the trials being conducted again in 1964.

The cumulative results as well as 1963's results in terms of bacterial ring rot and leaf roll content has been as follows:

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### BACTERIAL RING ROT

No bacterial ring rot was found in any of the sample lots planted in 1963. The Columbia Basin area has suffered severe losses from bacterial ring rot in the past. However, these losses have been less each year. Ring rot still occurs in certified seed lots each year. The various certifying agencies and all seed growers must continue to be on the alert and offensive against this disease.

### LEAF ROLL

Leaf roll continues to be the number one potato disease in central Washington. Again, use of the cleanest possible certified seed based on field and greenhouse or winter testing is one necessary tool to use against this disease.

The Othello Seed Lot Trials provide a record of performance based on

one or more 300 tuber samples of a particular seed lot. As a reminder, only seed lots sold in Washington and sampled by a Horticultural Inspector are planted in the trials. The trial results show a record of the previous year's seed crop.

1. Certified seed potatoes used in 1963, generally showed an improvement over previous years with only 20% of all samples showing leaf roll.
  - a. There was an increase in leaf roll within the infected lots over the previous year with an average of 3.5 leaf roll plants per infected sample as compared to 1.9 in 1962 and 4.1 leaf roll plants per sample in 1961.
2. As compared to 1962, content of leaf roll showed the following:
 

Montana reduced the number of leaf roll lots but increased both percentage and total leaf roll plant count.

Idaho sharply decreased the number of infected samples, percent of infected samples and total count of infected plants.

Washington, B. C., Canada, Minnesota, and North Dakota all sharply reduced all counts.

Oregon had nearly a 2/3 drop in total samples and a drastic jump in percentage of infected lots and leaf roll per infected sample.

Alberta, Canada, stayed the same on percentage, but did improve in number of leaf roll per infected sample.
3. Leaf roll content may and often does vary as to localized areas within a supply state or area.
4. The following tables present the summary of the 1963 and previous year's seed lot trials. Areas with few samples do not necessarily give a complete comparison.

TABLE I

INCIDENCE OF LEAF ROLL IN SEED SAMPLES  
BY AREAS OR ORIGIN - 1963  
(Based on 1962 Seed Crop Year)

Origin	Total No. of Sample Lots	Sample Showing L. R.		Total No. of Leaf Roll Plants
		Number	% of Total	
Montana	62	7	11	32
Idaho	25	2	8	2
Washington	16	7	44	17
B. C., Canada	7	2	29	10
Oregon	7	6	86	23
Minnesota	6	1	17	6
North Dakota	3	0	0	0
Alberta, Canada	<u>2</u>	<u>1</u>	<u>50</u>	<u>1</u>
TOTAL	129	26	20	91

TABLE II

INCIDENCE OF LEAF ROLL IN SEED SAMPLES BY AREAS OF ORIGIN  
 TOTAL OF 1961, 1962 and 1963  
 (Based on 1960, 1961 and 1962 Seed Crop Years)

Origin	Total No. of Sample Lots	Sample Showing L. R. Number	% of Total	Total No. of Leaf Roll Plants
Montana	164	16	10	44
Idaho	121	18	15	26
Washington	56	37	66	143
B. C., Canada	50	23	46	107
Oregon	24	15	63	44
Minnesota	19	8	42	48
North Dakota	15	5	33	13
Alberta, Canada	8	4	50	6
Nebraska (2 yrs.)	3	2	66	7
California (1 yr.)	1	0	0	0

TABLE III

SUMMARY OF TOTAL FIGURES ON LEAF ROLL INCIDENCES  
 FOR ALL SEED SAMPLES IN THE TRIALS - 1961, 1962 and 1963

Year	Total No. of Sample Lots	Samples Showing L. R. Number	% of Total	Total No. of Leaf Roll Plants
1961	229	84	37	367
1962	141	37	26	73
1963	129	26	20	91

OTHELLO POTATO SEED LOT TRIALS - 1963

TABLE IV

Field No.	Name	Address	Tag
<u>Norland</u>			
1	Bestland, Theo.	E. Grand Forks, Minn.	Blue
<u>Kennebec</u>			
2	Dagen, Duane R.	Karlstad, Minn.	Blue
3	Cusin, A. L.	Lynden, Wash.	Blue, 5-13
4	Deiniger, John	Oregon City, Oregon	Found. 89696

Field No.	Name	Address	Tag
<u>Snowflake</u>			
5	Bedlington, Gordon	Lynden, Wash.	Blue, 8-2
<u>White Rose</u>			
6	Bedlington, Gordon	Lynden, Wash.	Blue, 8-6
7	Bedlington, Gordon	Lynden, Wash.	Blue, 8-7
8	Crabtree, Gene	Lynden, Wash.	Blue, 3-6
9	Oxford, Harry & Son	Ferndale, Wash.	Blue 33-3
10	Ramerman, John	Ferndale, Wash.	Blue, 9-4
11	Irvine & Cottom	Dillon, Mont.	Blue
12	Irvine & Cottom	Dillon, Mont.	Blue
13	Johnson & Clark	Forest River, N. D.	Blue
14	Van Donick, Theo.	Gresham, Oregon	White
<u>Early Gem</u>			
15	Baum, Clark	Ashton, Idaho	Blue
16	Howell Bros.	Greentimber, Idaho	Blue
<u>Russet Burbank</u>			
17	Fredrickson, Donald	Bagley, Minn.	Blue
18	Fredrickson, Donald	Bagley, Minn.	Blue
19	Bedlington, Gordon	Lynden, Wash.	Blue, 8-5
20	Carlson Bros.	Lynden, Wash.	Blue, 2-3
21	Lennart, E. W.	Everson, Wash.	Blue, 17-7
22	Lennart, E. W.	Everson, Wash.	Blue, 17-7
23	Johnson, Wesley	Boring, Oregon	Blue, 6955
24	Rayburn Bros.	Weston, Oregon	Found. 199128
25	Van Donick, Theo.	Gresham, Oregon	Blue, 80398
26	Anderson, Arvil O.	St. Ignatius, Mont.	Red
27	Beck, Chas. E.	Deer Lodge, Mont.	Blue
28	Beck, Chas. E.	Deer Lodge, Mont.	Blue
29	Beck, Chas. E.	Deer Lodge, Mont.	Blue
30	Beck, Donald W.	Deer Lodge, Mont.	Blue
31	Bennett, Gene	Deer Lodge, Mont.	Blue
32	Donich, A. J.	Deer Lodge, Mont.	Blue
33	Dubay, Abe	Polson, Mont.	Blue
34	Fleming Bros.	Pablo, Mont.	Blue
35	Fleming Bros.	Pablo, Mont.	Blue
36	Hern, D. A. & Sons	Polson, Mont.	Blue
37	Hern, D. A. & Sons	Polson, Mont.	Blue
38	Hern, D. A. & Sons	Polson, Mont.	Blue
39	Hern, D. A. & Sons	Polson, Mont.	Blue
40	Hocker, William	Ronan, Mont.	Blue
41	Jacobson Bros.	Deer Lodge, Mont.	Blue
42	Johnson, Robert R.	Deer Lodge, Mont.	Blue

Field No.	Name	Address	Tag
43	Johnson, Robert R.	Deer Lodge, Mont.	Blue
44	Larson, Lee	Polson, Mont.	Blue
45	Koenig, Wm. & Son	Kalispell, Mont.	Blue
46	Logan, Frank & Son	Kalispell, Mont.	Blue
47	Logan, Frank & Son	Kalispell, Mont.	Blue
48	Logan, Frank & Son	Kalispell, Mont.	Blue
49	Mangels, Walter & Sons	Polson, Mont.	Blue
50	Meyer, Carl B.	Deer Lodge, Mont.	Blue
51	Meyer, Carl B.	Deer Lodge, Mont.	Red
52	Phillips, Kenneth	St. Ignatius, Mont.	Red
53	Phillips, Kenneth	St. Ignatius, Mont.	Blue
54	Phillips, Kenneth	St. Ignatius, Mont.	Red
55	Schutter, John	Manhattan, Mont.	Blue
56	Schutter, John	Manhattan, Mont.	Blue
57	Starkel, Victor	Ronan, Mont.	Blue
58	Koehnke & Vanisko	Deer Lodge, Mont.	Blue
59	Bainbridge, Earl	Tetonia, Idaho	Green
60	Baum, Russell	Ashton, Idaho	Blue
61	Baum, Russell	Ashton, Idaho	Blue
62	Bowles, Elmer	Driggs, Idaho	Blue
63	Bowles, Elmer	Driggs, Idaho	Green
64	Coburn, Scott	Moore, Idaho	Blue
65	Goebel, Henry	Greentimber, Idaho	Blue
66	Hillman, Clair	Driggs, Idaho	Green
67	Hillman, Guy R.	Driggs, Idaho	Green
68	Hillman, John A.	Driggs, Idaho	Green
69	Hiebert, Ned	Victor, Idaho	Green
70	Kunz, Duane H.	Victor, Idaho	Green
71	Marotz, Victor	Greentimber, Idaho	Blue
72	Marotz, Victor	Greentimber, Idaho	Blue
73	Marotz, Herman	Greentimber, Idaho	Blue
74	Prins, John	Lacombe, Alta.	Red F. 16696
75	Prins, John	Lacombe, Alta.	Blue F. 16696
76	Staples, R. B.	Creston, B. C.	F. 17383
77	Langston, H.	Creston, B. C.	F. 17381
78	Lundgren, B.	Pemberton, B. C.	F. 17719
79	Ronayne, J.	Pemberton, B. C.	F. 17736
80	Spetifore, R.	Pemberton, B. C.	F. 17748
81	Thompson, Joe & Hall	Nash, North Dakota	Blue
82	Monson, Millard	Hatton, North Dakota	Blue
83	Caffrey Bros.	Polson, Mont.	Blue
84	Fleming, Kenneth P.	Deer Lodge, Mont.	Blue
85	Irvine & Cottom	Dillon, Mont.	Blue
86	Phillips, Waldo K.	St. Ignatius, Mont.	Blue
87	Ryan & Tamcke	Deer Lodge, Mont.	Blue

Field			
No.	Name	Address	Tag
88	Salomon, Peter	Ronan, Mont.	Blue
89	Treweek, William	Kalispell, Mont.	Blue
90	Goebel, Henry	Greentimber, Idaho	Blue
91	Baum, Oliver	Ashton, Idaho	Blue
92	Adami, Leo P.	St. Ignatius, Mont.	Blue
93	K. C. Farms	Pemberton, B. C.	F. 17715
94	Haskins & Co.	Bonanza, Oregon	F. 60586
95	Marotz, Max	Greentimber, Idaho	Blue
96	Dubay, Ed	Polson, Mont.	Blue
97	Green, W. R.	Pemberton, B. C.	F. 17709
98	Cyr, Harry W.	Everson, Wash.	Blue, 28-7
99	Fritzberg, D. E.	Everson, Wash.	Blue, 23-1
100	Bainbridge, Earl	Tetonia, Idaho	Green
101	Ruén Farms	Clark Fork, Idaho	Blue
102	Anderson & Newton	Polson, Mont.	Red
103	Bailey, John	Ronan, Mont.	Blue
104	Bailey, John	Ronan, Mont.	Blue
105	Bauer Bros.	Kalispell, Mont.	Blue
106	Donich, A. J.	Deer Lodge, Mont.	Blue
107	Dubay, Ed	Polson, Mont.	Blue
108	Koehnke & Vanisko	Deer Lodge, Mont.	Blue
109	Lake Bros.	Ronan, Mont.	Blue
110	Logan, Frank & Sons	Kalispell, Mont.	Blue
111	Normandeau, H. H.	Ronan, Mont.	Blue
112	Schutter, John	Manhattan, Mont.	Blue
113	Schutter, John	Manhattan, Mont.	Blue
114	Van Aken Gardens	Whitefish, Mont.	Blue
115	Van Aken Gardens	Whitefish, Mont.	Blue
116	Snell, J. A.	Kalispell, Mont.	Blue
117	Hart, John	Craigmont, Idaho	Blue
118	Fritzberg, D. E.	Everson, Wash.	Blue, 23-1
119	Bedlington, Gordon	Lynden, Wash.	Buff, 8-4
120			
121	Koehnke, Francis	Deer Lodge, Mont.	Purple
122	Broksle, John & R.	Twin Bridges, Mont.	Blue
123	Beck, Chas. E.	Deer Lodge, Mont.	Blue
124	Wampler & Werth	Powell Butte, Oregon	Purple, 80272
125	Kunz, Grant M.	Victor, Idaho	Green
126	Stark, Mike	Polson, Mont.	Red
127	Longhurst, Albert	Blackfoot, Idaho	Pre-cut
*128	Camp, W. B. & Sons	Lynden, Wash.	Blue, 25-11
129	Lipoma, Bothum & Ward	Roseau, Minn.	Blue
130	Dagen, Luverne	Karlstad, Minn.	Red

\* (Red LaSoda)

Note: No. 's 1-96 planted April 12, 1963

No. 's 97-130 planted May 9, 1963

## OTHELLO POTATO SEED LOT TRIALS

Disease Record - made June 17, 1963  
 Follow-up reading made June 24, 1963

TABLE V

Field			Field		
No.	Leafroll	Other	No.	Leafroll	Other
3	1	1 M, 3 weak	76	6	
4	5		77	4	
5	2		91	1	1 O. T.
8		1 M	92	2	
9		18 M. Irregular growth, lacking vigor (Mosaic)	98	4	
			99	1	
10		6M	100		2 weak
11		1 M	103	7	1 weak
12	1		104	13	1 weak
14	1	47 M	106		1 M., 1 weak
19	5		107		2 weak
20	1		108		1 weak
23	2		109	3	2 weak
24	4	1 W. B.	110		1 weak
25	7		111	4	2 weak
38	1		113		2 weak
44		1 W. B.	114		1 Cal.
46	1		117		1 weak
55		2 M	119	3	8 weak
56		1 M	120	2	
58		1 Cal.	122		1 M, 4 weak
59		1 B. L.	124	4	
70	1	1 O. T.	125		1 weak
74		1 W. B.	127		3 B. L. very poor stand, irreg. growth
75	1		128		2 weak
			129	6	1 weak
			130		2 M, 5 weak

Key: M. - Mosaic                      S. T. - Spindle Tuber      B. L. - Black Leg  
 O. T. - Off Type                      Cr. M. - Crinkle Mosaic    R. M. - Rugose Mosaic  
 W. B. - Witches Broom              Cal. - Calico                      G. H. - Giant Hill

Lots Read June 17 by: W. G. Hoyman, R. Kunkel, G. Easton, L. Benedict  
 and B. J. Landis

Lots Read June 24 by: W. G. Hoyman and Gene Easton  
 Ring Rot inspection made by Hoyman and Easton