

EVALUATION OF ADVANCED CLONES FOR SUSCEPTIBILITY TO POWDERY SCAB, 2003

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Location: Lynn McCullough's Farm, Center, CO

Objective: To evaluate the susceptibility of advanced potato clones to powdery scab.

Clones:

1. Atlantic	17. A93157-6LS
2. Superior	18. Bannock Russet
3. B0564-8 (Harley Blackwell)	19. Alturas
4. B0766-3	20. Gem Russet
5. Liberator	21. AC89536-5RU
6. MSG227-2	22. AC92009-4RU
7. NDTX4271-1R	23. AC93026-9RU
8. NDTX4304-6R	24. CO93001-11RU
9. AF1758-7	25. CO93016-3RU
10. AF1921-4	26. CO93037-6R
11. W1201	27. NDC5281-2R
12. W1836-1rus	28. TC1675-1RU
13. ND2470-27	29. Dakota Rose
14. ND3196-1R	30. Calred
15. Russet Burbank	31. Keulca Gold
16. Ranger Russet	32. Baltica

Planted: May 16, 2003

Plot Design: Randomized

Plot Size: 1 - 10 foot row per treatment per replication

Plant Spacing: 12 inches

Row Spacing: 34 inches

Replications: Four

Irrigation: Center pivot sprinkler, rate based on ET

Fertilizer: 40N-125P-120K-19S-3Zn preplant, 110N topdress

Herbicide: Dual II Magnum, 1.3 pt./A + Sencor DF, 4.0 oz./A

Insecticide: Provado, 3.75 oz./A + Perm Up, 6.4 oz./A

Fungicide: Kocide 4.5LF, 2.0 pt./A + Ridomil Gold EC, 4.3 oz./A + Quadris, 6.4 oz./A + Bravo WS, 14.9 oz./A

Vine Killer: Beat Vines on September 4, 2003

Harvested: September 16, 2002

DATA

Disease: Galls on roots rated 0 to 4, 0 = none, 4 = heavily infected, readings taken August 7.

Mean percent of the number of tubers showing one or more powdery scab lesions at harvest multiplied by the severity of the lesions, where 1 = very little or no disease and 5 = heavily infested.

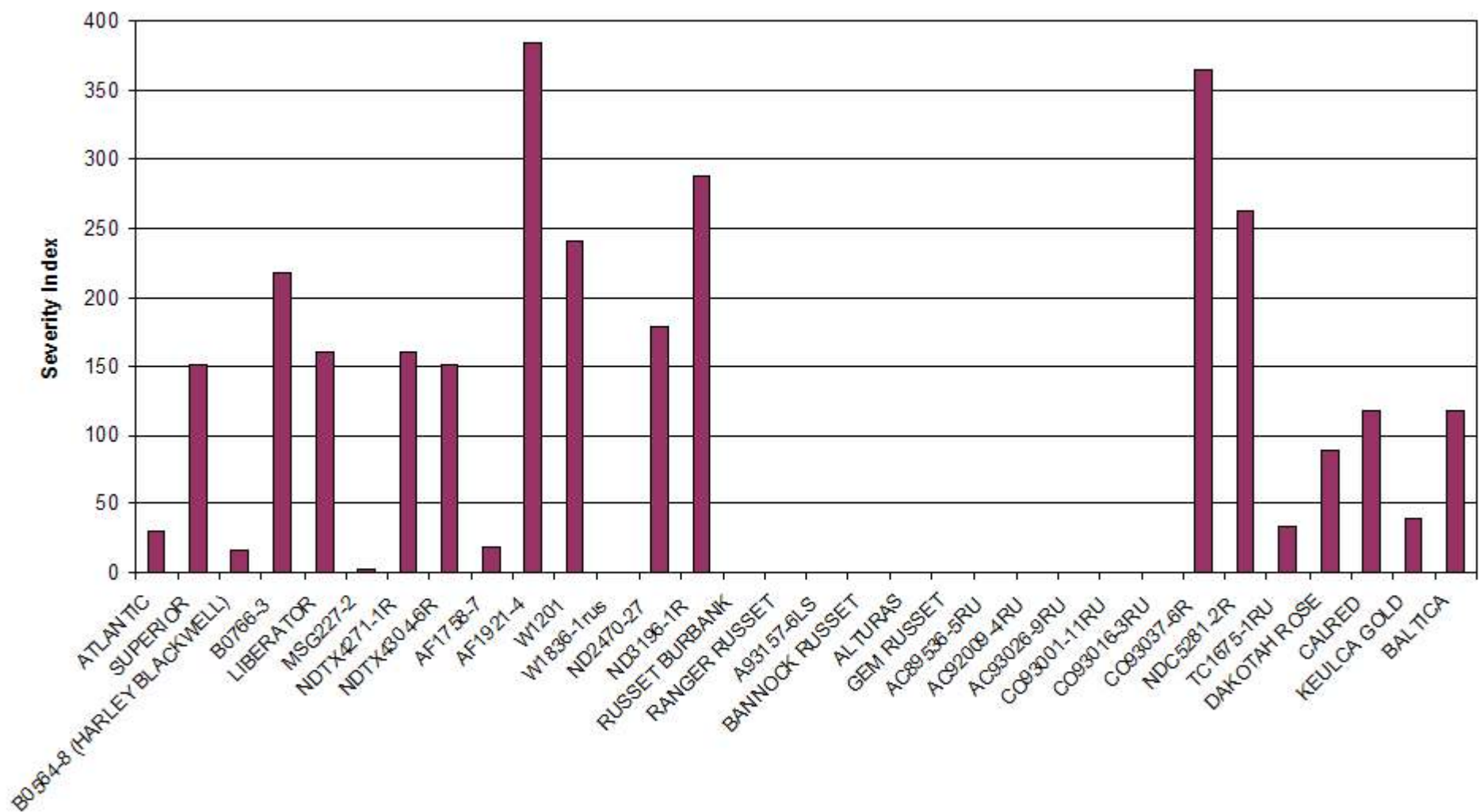
Table 1. Evaluation of advanced clones for tuber susceptibility to powdery scab, San Luis Valley, Colorado, 2003

Cultivar	Tuber symptoms			
	Percent Incidence	Percent Healthy	Severity Index ^a	Root Gall Rating ^b
1. ATLANTIC	22.5 efg	77.5	30.0 ij	2.0
2. SUPERIOR	75.6 abc	24.4	151.3 efg	3.5
3. B0564-8 (HARLEY BLACKWELL)	16.9 fg	83.1	16.9 ij	1.5
4. B0766-3	76.9 abc	23.1	217.5 cde	0.5
5. LIBERATOR	60.6 cd	39.4	160.6 d-g	0.5
6. MSG227-2	1.9 g	98.1	1.9 j	0.0
7. NDTX4271-1R	58.1 cd	41.9	161.3 d-g	4.0
8. NDTX4304-6R	64.4 bcd	35.6	151.3 efg	0.5
9. AF1758-7	11.3 fg	88.7	18.8 ij	2.0
10. AF1921-4	95.0 a	5.0	383.1 a	3.5
11. W1201	78.8 abc	21.2	240.0 cd	2.0
12. W1836-1rus	0.0 g	100.0	0.0 j	0.0
13. ND2470-27	78.1 abc	21.9	178.1 def	1.5
14. ND3196-1R	89.4 ab	10.6	287.5 bc	4.0
15. RUSSET BURBANK	0.0 g	100.0	0.0 j	3.0
16. RANGER RUSSET	0.0 g	100.0	0.0 j	3.0
17. A93157-6LS	0.0 g	100.0	0.0 j	2.5
18. BANNOCK RUSSET	0.0 g	100.0	0.0 j	2.0
19. ALTURAS	0.0 g	100.0	0.0 j	2.0
20. GEM RUSSET	0.0 g	100.0	0.0 j	1.5
21. AC89536-5RU	0.0 g	100.0	0.0 j	1.0
22. AC92009-4RU	0.0 g	100.0	0.0 j	0.5
23. AC93026-9RU	0.0 g	100.0	0.0 j	2.0
24. CO93001-11RU	0.0 g	100.0	0.0 j	2.5
25. CO93016-3RU	0.0 g	100.0	0.0 j	2.5
26. CO93037-6R	91.3 a	8.7	365.0 ab	0.5
27. NDC5281-2R	76.9 abc	23.1	262.5 c	3.0
28. TC1675-1RU	16.9 fg	83.1	33.8 ij	2.0
29. DAKOTAH ROSE	44.4 de	55.6	88.8 ghi	3.0
30. CALRED	65.0 bcd	35.0	116.9 fgh	4.0
31. KEULCA GOLD	28.8 ef	71.2	39.4 hij	3.0
32. BALTICA	64.4 bcd	35.6	116.9 fgh	1.5
LSD(P=0.05)	25.67		81.89	NS

^aSeverity Index = mean percent of the number of affected tubers, 40 tubers/treatment/replication multiplied by the severity of the lesions, where 1 = very little or no disease and 5 = heavily infested.

^bRoot Gall Rating = mean percent of plants infected with powdery scab root galls, where 0 = no root galls and 4 = extensive root galls. Means followed by the same letter are not significantly different at P=0.05.

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**Evaluation of advanced clones for suseptibility to powdery scab root galls
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