EVALUATION OF ADVANCED CLONES FOR SUSCEPTIBILITY TO POWDERY SCAB, 2004

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Location: Off-station trial, San Luis Valley, CO

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

Clones:

1. ATLANTIC
2. SUPERIOR
3. RANGER RUSSET
4. RUSSET BURBANK
5. ALTURAS
6. BANNOCK RUSSET
7. GEM RUSSET
8. HARLEY BLACKWELL
9. BO766-3
10. MN96013-1
11. MN96001-2
12. MN99380-1
13. MEGACHIP (W1201)
14. FREEDOM RUSSET (W1836-3rus)
15. VILLETTA ROSE (W2275-R)
16. CO94035-15ru
17. CO94165-3P/P
18. CO94183-1R/R
19. AF1753-16
20. AF1808-18
21. VC1002-3W/Y
22. VC0967-2R/Y
23. CHERRY RED (DT6063-1R)

Planted: May 12, 2004
Plot Design: Randomized
Plot Size: 1 - 10 foot row per treatment per replication
Plant Spacing: 12 inches
Row Spacing: 34 inches
Replications: Three
Irrigation: Center pivot sprinkler, rate based on ET
Fertilizer: 40N-160P-0K-33S-2Zn preplant, 84N-18S topdress
Herbicide: Prowl @ 1.8 pt./A + Sencor @ 1/3 lb./A
Insecticide: Permethrin @ 6.4 oz./A
Fungicide: Dithane DF @ 1.5 lb./A + Amistar @ 2.0 oz./A + Agri Tin @ 2.5 oz./A
Vine Killer: Reglone @ 2.0 pt./A on August 25, 2004
Harvested: September 8, 2004

DATA

Disease: Galls on roots rated 0 to 4, 0 = none, 4 = heavily infected, readings taken August 5.
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, 2004.

Cultivar	Tuber symptoms			Root Gall Rating[b]
	Percent Incidence	Percent Healthy	Severity Index[a]	
1. ATLANTIC	2.0 e	98.0 a	2.0 d	3.0 abc
2. SUPERIOR	4.0 de	96.0 ab	6.0 cd	3.5 ab
3. RANGER RUSSET	0.0 e	100.0 a	0.0 d	2.5 a-d
4. RUSSET BURBANK	0.0 e	100.0 a	0.0 d	3.0 abc
5. ALTURAS	0.0 e	100.0 a	0.0 d	1.5 cde
6. BANNOCK RUSSET	0.0 e	100.0 a	0.0 d	1.5 cde
7. GEM RUSSET	0.0 e	100.0 a	0.0 d	2.5 a-d
8. HARLEY BLACKWELL	4.7 de	95.3 ab	6.7 bcd	2.0 b-e
9. BO766-3	9.3 cde	90.7 abc	16.0 bcd	2.5 a-d
10. MN96013-1	5.3 de	94.7 ab	6.7 bcd	1.0 de
11. MN96001-2	43.3 a	56.7 e	130.7 a	1.5 cde
12. MN99380-1	2.7 e	97.3 a	2.7 d	1.0 de
13. MEGACHIP (W1201)	26.0 b	74.0 d	50.7 bc	2.0 b-e
14. FREEDOM RUSSET (W1836-3rus)	0.7 e	99.3 a	0.7 d	0.5 e
15. VILLETTA ROSE (W2275-R)	2.0 e	98.0 a	2.0 d	1.0 de
16. CO94035-15ru	0.0 e	100.0 a	0.0 d	1.0 de
17. CO94165-3P/P	16.7 bcd	83.3 bcd	26.7 bcd	2.0 b-e
18. CO94183-1R/R	42.7 a	57.3 e	97.3 a	1.5 cde
19. AF1753-16	1.3 e	98.7 a	1.3 d	1.5 cde
20. AF1808-18	0.0 e	100.0 a	0.0 d	0.5 e
21. VC1002-3W/Y	10.0 cde	90.0 abc	16.7 bcd	4.0 a
22. VC0967-2R/Y	22.0 bc	78.0 cd	51.3 b	3.5 ab
23. CHERRY RED (DT6063-1R)	43.3 a	56.7 e	100.7 a	3.0 abc
LSD(P=0.05)	12.99	12.99	45.03	1.53

[a] Severity Index = mean percent of the number of affected tubers, 50 tubers/treatment/replication multiplied by the severity of the lesions, where 1 = very little or no disease and 5 = heavily infested.

[b] Root 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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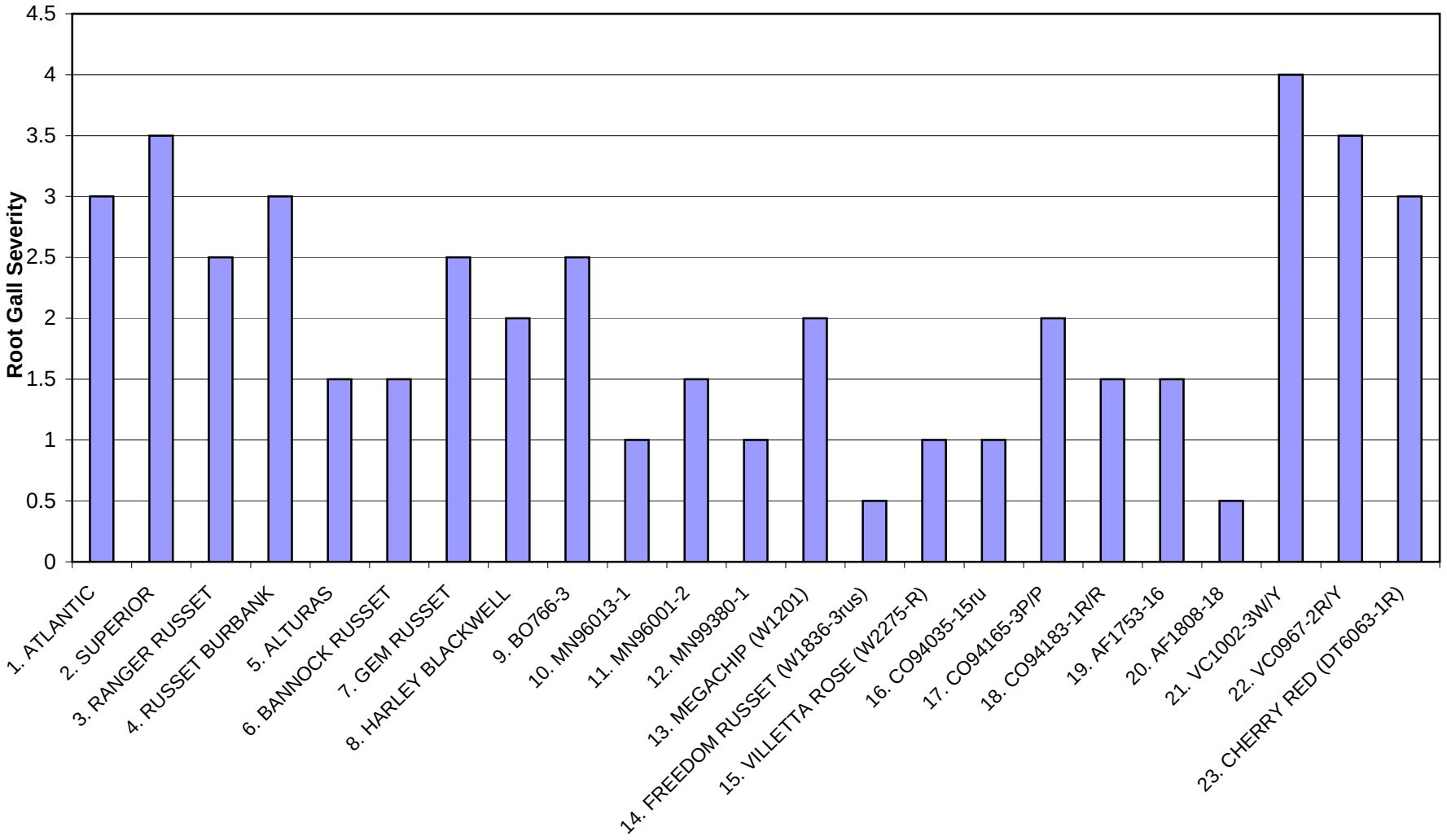
Evaluation of advanced clones for suseptibility to powdery scab root galls
San Luis Valley, Colorado, 2004



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