

1985

## POST HARVEST EVALUATIONS

Submitted by

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### Blackspot

Ten randomly selected tubers of each of the 30 clones were bruised on the stem and bud ends with a 150 g weight dropped from a height of 68 cm. Tubers were held for three days at room temperature prior to evaluation on October 18, 1985. Blackspot susceptibility was evaluated by peeling tubers to expose bruised areas. A rating scale of 1 to 5 was used, with 5 indicating no discoloration.

Blackspot indices ranged from 2.4 to 5.0. Six clones; AC77101-1, AC77669-1, AC8024-5, AC80369-1, C08014-2, and Lemhi were significantly more susceptible to blackspot than Russet Burbank (Table 1). AC80369-1 was the most susceptible clone, while C07922-1 exhibited no blackspot at all.

### Weight Loss and Sprouting

Ten randomly selected tubers of each clone, ranging in size from 6 to 12 oz, were weighed on October 4, 1985. Prior to the initial weighing the tubers were held in the potato storage at 50 to 60°F for 2 to 4 weeks and over 95% relative humidity. On October 25 the tubers were moved from the storage to a cooler at 45°F, with low relative humidity. On December 20 the temperature in the cooler was lowered from 45 to 40°F. Final tuber weights were taken on February 5, 1986. Sprout evaluations were made on these same 10 tuber samples on February 5. A 1 to 5 scale was used, with 5 indicating no sprouting.

Storage weight loss ranged from 2.1 to 5.8% (Table 1). Fourteen clones lost a significantly higher percentage weight in storage than Russet Burbank. AC8024-5 lost the least amount of weight during storage, while AC77652-1 lost the most. Considering the relatively poor storage conditions, none of the clones lost an excessive amount of weight during the 4 month storage period.

Every clone, except C08014-2, exhibited more sprouting on February 5 than Russet Burbank. AC79100-1, AC79128-1 and AC80369-1 exhibited the worst sprouting. Tubers of these three clones had 2 to 3 inch sprouts emerging from most of the eyes.

### Specific Gravity, Fry Color and Mealiness

Twenty-nine clones were evaluated for specific gravity, fry color and mealiness. Samples were harvested September 3-4 and stored at 55°F until October 16. At that time, specific gravity, fry color, and mealiness were evaluated. The remaining portion of the sample was stored at 45°F until December 30 when fry color and mealiness were again rated. This data is summarized in Table 2.

Specific gravity ranged from 1.109 to 1.076. C08014-2 exhibited the highest specific gravity, while AC8024-5 had the lowest. Seventeen clones had a higher specific gravity than Russet Burbank.

Clones were rated on a 1 to 5 scale for french fry color, with 5 being the lightest or best color. Rating of 2 or less are unacceptable. Several clones produced excellent fry color. Nine clones fried as good as or better than Russet Burbank. Clones with better fry color were: AC77226-10, AC80369-1, AC80545-1, C07920-3, and TC582-1.

Mealiness is a measure of the texture of the cooked french fry. Mealiness was rated on a 1 to 5 scale. A rating of 5 indicates the cooked flesh is dry, with 1 representing a soggy, wet texture. Four clones; AC80545-1, C07920-3, C08014-2, and TC582-1 received mealiness ratings equivalent to or greater than Russet Burbank.

Table 1. Blackspot, weight loss, and sprout evaluations of 30 potato clones in 1985-1986.

Clone	Blackspot Index <sup>a</sup> (1-5)	Weight Loss (%)	Sprout Index <sup>a</sup> (1-5)
A72685-2	4.4	2.5	3
A74133-1	4.9	2.7	3
A74212-1	4.4	2.5	4
AC77101-1	3.2* <sup>a</sup>	3.8* <sup>c</sup>	4
AC77226-10	4.7	3.3*	4
AC77226-13	4.7	3.4*	4
AC77513-1	4.7	4.4*	4
AC77652-1	4.5	5.8*	4
AC77669-1	2.9*	3.5*	2
AC79100-1	4.9	4.0*	1
AC79128-1	4.4	2.9	1
AC8024-5	3.4*	2.1	2
AC80363-1	4.3	2.5	3
AC80369-1	2.4*	3.1	1
AC80545-1	4.1	2.4	4
BC0038-1	4.0	2.2	3
BC9668-1	4.6	3.4*	4
C07913-1	4.9	4.5*	2
C07916-3	4.8	2.6	4
C07920-3	3.7	2.9	4
C07922-1	5.0	5.5*	3
C08011-5	4.9	3.3*	2
C08014-2	3.3*	2.8	5
C08048-1	4.6	2.6	4
TC582-1	4.4	2.5	3
WNC285-18	4.9	3.8*	4
WNC567-1	4.9	5.0*	4
Centennial Russet	4.7	4.6*	4
Lemhi Russet	2.7*	-	-
Russet Burbank	4.3	2.6	5

<sup>a</sup>See text for explanation of blackspot and sprout index scales.

<sup>b</sup>Indicates significantly more susceptible to blackspot than Russet Burbank.

<sup>c</sup>Indicates significantly higher percentage weight loss in storage than Russet Burbank.

Table 2. Tuber shape, skin type, specific gravity, fry color and mealiness ratings for twenty-nine potato clones in 1985.

Clone	Tuber Shape & Skin Type <sup>1</sup>	Specific Gravity	Fry Color <sup>2</sup>		Mealiness <sup>2</sup>	
			Oct 16	Dec 30	Oct 16	Dec 30
A72685-2	Ob,R	1.088	2.0	2.0	1	2
A74133-1	Ob,R	1.081	2.5	1.5	3	3
A74212-1	L,R	1.087	3.5	2.0	2	2
AC77101-1	Ob,R	1.085	3.0	2.0	2	2
AC77226-10	Ob,R	1.084	4.5	4.0	1	1
AC77226-13	Ob,R	1.087	4.0	3.0	3	3
AC77513-1	L,R	1.089	2.0	2.5	3	3
AC77652-1	Ob,R	1.082	1.5	1.0	3	4
AC77669-1	Ob,R	1.077	1.5	1.0	1	3
AC79100-1	L,R	1.089	3.0	3.0	3	3
AC79128-1	Ob-L,R	1.081	4.0	3.5	2	2
AC8024-5	Ob-L,R	1.076	3.5	2.0	2	4
AC80363-1	Ob-L,R	1.089	2.5	2.0	4	2
AC80369-1	Ob,R	1.092	4.5	4.5	2	3
AC80545-1	R,W	1.097	4.5	4.5	4	4
BC0038-1	L,W	1.095	2.5	2.5	4	3
BC9668-1	L,R	1.079	2.5	2.5	1	3
C07913-1	Ob-L,R	1.079	2.0	2.0	3	4
C07916-3	Ob,R	1.099	1.0	1.0	4	3
C07920-3	Ob-L,R	1.102	4.5	4.0	5	4
C07922-1	L,R	1.089	2.5	3.0	2	2
C08011-5	Ob,R	1.081	3.0	1.5	3	2
C08014-2	Ob,R	1.109	4.0	4.0	5	5
C08048-1	Ob,R	1.087	4.0	3.5	2	3
TC582-1	Ob,R	1.104	4.5	4.0	5	5
WNC285-18	Ob-L,R	1.086	1.5	1.0	2	2
WNC567-1	L,R	1.081	1.0	1.0	3	2
Centennial Russet	Ob,R	1.083	1.5	2.0	3	2
Russet Burbank	L,R	1.084	4.0	3.5	4	4

<sup>1</sup>Tuber Shape: R = Round; Ob = Oblong; L = Long.  
Skin Type: R = Russet; W = White.

<sup>2</sup>Please refer to the text for an explanation of the rating system used for french fry color and mealiness evaluations.