Potato Progress

Research and Extension for Washington's Potato Industry
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Andrew Jensen, Editor. Submit articles and comments to: ajensen@potatoes.com
108 Interlake Rd., Moses Lake, WA 98837; Fax: 509-765-4853; Phone: 509-765-8845.

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Tests of Specialty Breeding Lines I: Size Profiles from Washington Suggest Several Marketing Options

Charles R. Brown and Richard Quick, USDA/ARS, Prosser, WA.

Yield trials of recently selected specialty clones were conducted in 2006 at the Paterson, WA field site. Two trials were conducted, each consisting of 3 replications of 10-hill plots. In recent years our industry partners have expressed an intense interest in the tuber size profiles. We, therefore, present tuber sizes above four ounces in 2 oz. intervals.

These data are compiled after culls are removed. Yukon Gold is the most successfully commercialized specialty variety in the trial. Many fresh market growers compare all other potential specialty potatoes against Yukon Gold. Indeed it is fairly unique in its tendency to set a small number of larger tubers. This can be seen in Figure 1, where nearly ¾ of the yield is in 10 oz. or above tuber sizes. No other clone is comparable in that respect except POR02PG5-1, which has a larger total yield and 2/3 of the yield as 10 oz or above. Next to the Yukon Gold histogram bar in Figure 1 is the POR02PG26-5 bar. This is a high yielding breeding line which resembles Yukon Gold in having a creamy skin and red color around the eyes. It has a bright, shiny skin and is attractive. However, agronomically it differs radically in tuber size distribution. Over half of tubers are under 8 oz size. Marketing this type of potato into a Yukon Gold market niche may be difficult when the expectation is a larger size tuber. Furthermore, Yukon Gold is well-known for its excellent taste. A potato that goes head to head against it will have to be even more palatable. However, the opening for such a potato may be in the B size market. Consumers are looking for convenience. Many households interested in new food types are single or two-person households where all parties work outside the home. Small, easily cooked potatoes that do not have to be cut to get the reduced portion size, present a market opening. Pre-prepackaged, B size potatoes, washed and ready to microwave are a presentation possibility. The other factor is that a new specialty potato must have bright colors so that it stands out on the fresh produce shelves (similar to the color array of apples). POR02PG26-5 is such a potato. The red splash around the eye is quite noticeable and the contrast with the shiny cream colored skin, underlaid with yellow flesh is attention-getting.

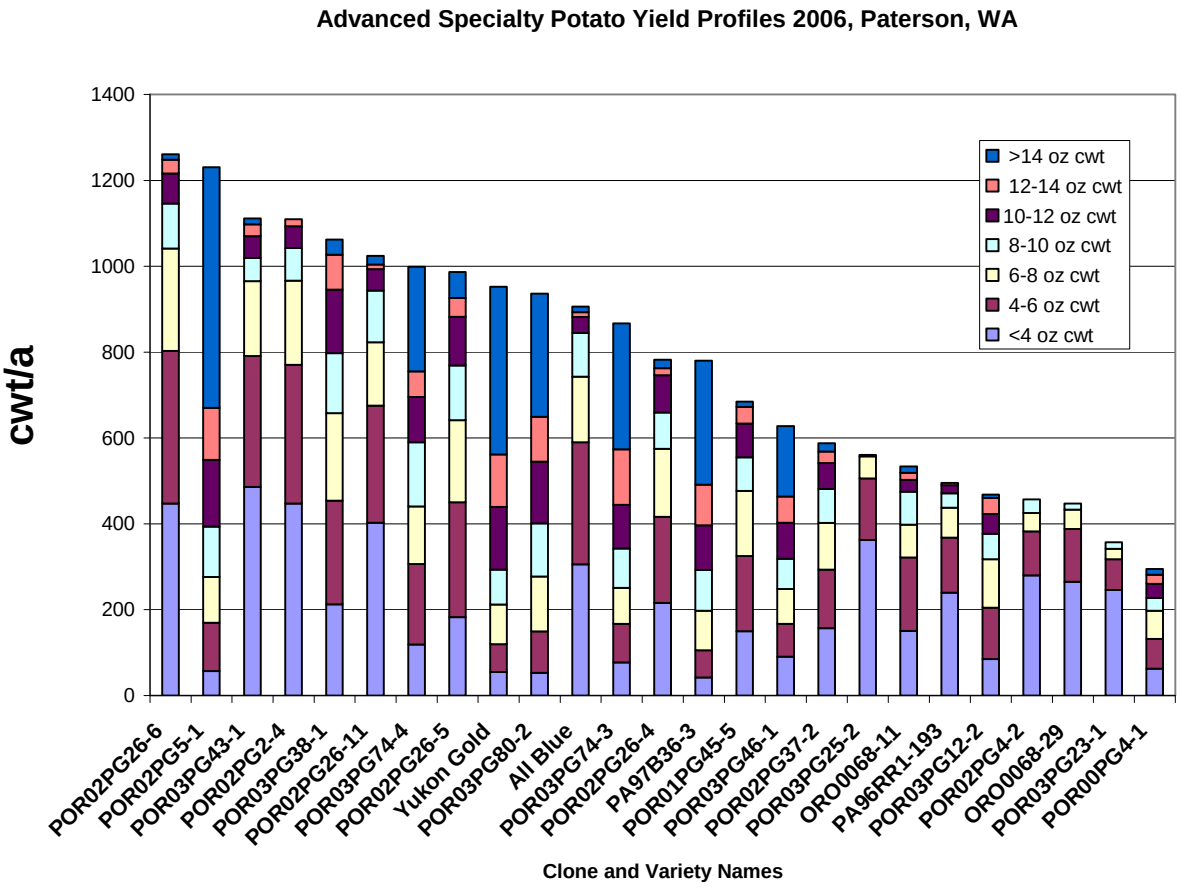

Figure 1. Yield and tuber size profiles of recently selected specialty breeding lines and standard varieties.

In Figure 2 we see the results from the multi-state trial of specialty clones maintained by Oregon State University at the Powell Butte station. These clones have been evaluated for more years and are considered more highly selected. Again, Yukon Gold is the clone with the largest representation of larger tuber sizes. Several clones which are intended to be grown as "fingerlings" are shown here. POR01PG22-1 has a total yield comparable to Yukon Gold and All Blue, but this yield is comprised of a much smaller size profile. Under 4 oz and 4 to 6 oz sizes make up 85% of the total yield. POR01PG16-1 is also a fingerling (purple skin/purple flesh). The biggest risk associated with this clone is its low yield. Obviously, the price for 16-1 must be higher than the price for 22-1 for a grower to make a profit. Can the grower control price? One of the highest yield clones in this trial, POR02PG89-4, shows a tuber size distribution with rather equal representation in the different classes. This would permit a grower to pack out sizes at different ends of the spectrum, which could be an economic advantage. Specialty potatoes seem to have vastly more spoken interest than money changing hands. Growers should be wary of diving into large production too fast. However, the nutritional factors in specialty potatoes point out that all the kinds of potatoes have all the nutrients found in the "good for you" vegetables, but are much more palatable, and are eaten in greater quantity and more frequently than all other vegetables in the US.

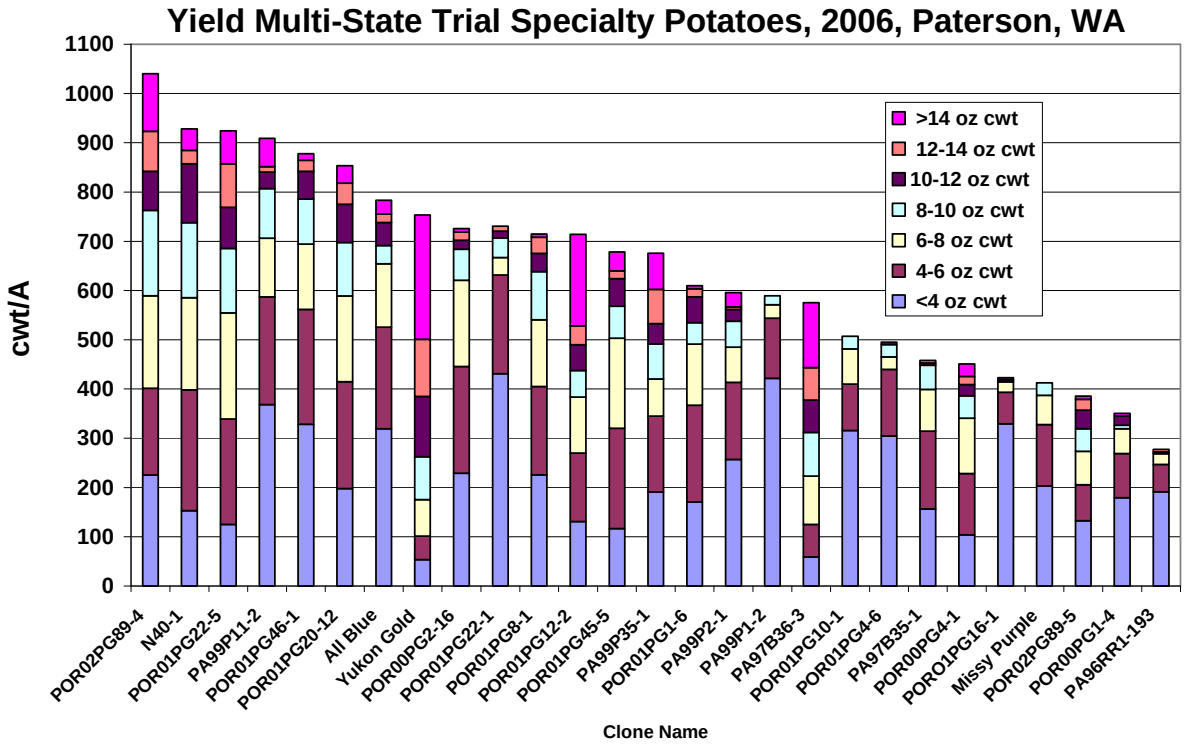

Figure 2. Yield and tuber size profiles of breeding lines and varieties in the multi-state Oregon Trial. Paterson, WA field site results.

34th Annual Hermiston Farm Fair & Trade Show

Hermiston Conference Center, 415 S. Hwy 395

Pesticide Recertification Credits
CCA Credits

WEDNESDAY, NOVEMBER 28, 2007

POTATO PRODUCTION SEMINAR, AM – Main Stage

8:00 Occurrence of Mefenoxam Resistant Isolates of *Pythium* spp in the Pacific Northwest– Stacy Gieck, OSU
8:30 How to Control Silver Scurf in Potatoes from Planting to Packing – Phil Hamm, OSU
9:00 Enhancing Red Skin Color of Potatoes Using MicroRates of 2,4-D – Brian Charlton, OSU
9:30 Potato Seed Lot Trial: How clean is your seed? – Nick David, OSU
10:00 Break
10:30 Potato Virus Levels and Seed Certification Tags – Jonathan Whitworth, OSU
11:00 The Pros and Cons of Pink Rot Management – Jeff Miller, Miller Research
11:30 Potato Nitrogen Management in Organic Cropping Systems – Dan Sullivan, OSU
12:00 Session Ends

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POTATO PRODUCTION SEMINAR, PM – Main Stage

1:00 Managing Verticillium Wilt of Potato in the Columbia Basin – Dennis Johnson, WSU
1:30 Nematode Management with Crop Rotation: Impact of Biofuel Crops - Russ Ingham, OSU
2:00 Economics of Seed Piece Spacing for Early Harvest Rangers - Mark Pavek, WSU
2:30 Tri-State Potato Variety Development - 24 Years Later – Dan Hane, OSU
3:00 Break
3:30 Tuber-Associated Insects -- A Who's Who - Andy Jensen, Washington State Potato Comm
4:00 Winter Survival of Potato Tuberworm in the Columbia Basin – Mahmut Dogramaci & Silvia Rondon
4:30 New Strategies for New and Old Potato Pests – Silvia Rondon, OSU

Potato Varieties in the Northwest

Data for the following table were gathered by the National Agricultural Statistics Service (NASS), and summarized here by the editor. In some cases, NASS does not report numbers for certain varieties, and these cases are indicated by the --. Several minor varieties not listed here were reported by NASS on occasion.

State	Russet Burbank	Russet Norkotah	Shepody	Ranger Russet	Umatilla	Alturas	Other
Idaho							
1997	79.7%	5.0%	7.1%	4.0%	--	--	4.2%
1998	77.9%	4.8%	5.6%	6.6%	--	--	5.1%
1999	74.4%	8.3%	4.2%	9.1%	--	--	4.0%
2000	74.9%	8.0%	3.9%	7.7%	1.3%	--	4.2%
2001	70.8%	8.4%	3.8%	11.1%	--	--	5.9%
2002	71.0%	7.5%	3.4%	12.0%	--	--	6.1%
2003	69.2%	10.1%	1.3%	12.9%	--	1.2%	5.3%
2004	63.3%	14.2%	1.7%	12.5%	--	2.9%	5.4%
2005	63.1%	11.8%	1.3%	15.1%	--	2.8%	5.9%
2006	66.0%	10.2%	--	12.7%	--	2.2%	8.9%
2007	62.0%	9.8%	1.3%	14.4%	1.6%	1.7%	9.2%
Oregon							
1997	30.9%	38.8%	18.2%	1.8%	--	--	7.9%
1998	39.5%	24.8%	17.2%	10.3%	--	--	7.2%
1999	42.9%	21.4%	12.5%	12.5%	--	--	8.9%
2000	32.7%	27.8%	9.8%	11.2%	3.1%	--	13.3%
2001	38.9%	12.3%	10.8%	22.5%	1.9%	--	13.6%
2002	24.3%	16.8%	18.8%	19.2%	1.8%	--	19.1%
2003	22.3%	25.6%	13.3%	15.4%	--	5.0%	18.4%
2004	22.8%	16.3%	10.3%	31.3%	--	7.2%	12.1%
2005	15.2%	23.8%	17.1%	25.3%	2.1%	7.7%	8.8%
2006	25.9%	20.4%	13.5%	22.5%	2.2%	5.5%	10.0%
2007	24.9%	20.2%	14.0%	18.1%	6.2%	5.1%	11.5%
Washington							
1997	50.2%	17.5%	7.6%	15.5%	--	--	9.2%
1998	58.1%	13.2%	8.9%	11.4%	--	--	8.4%
1999	41.3%	15.4%	10.8%	17.6%	6.7%	--	8.2%
2000	33.7%	17.2%	10.8%	20.2%	12.3%	--	5.8%
2001	35.3%	19.3%	6.8%	19.9%	12.1%	--	6.6%
2002	34.8%	11.8%	10.3%	22.3%	8.1%	--	12.7%
2003	34.9%	11.1%	9.3%	22.1%	8.2%	1.5%	12.9%
2004	34.7%	12.9%	8.2%	18.5%	10.7%	3.5%	11.5%
2005	40.6%	14.4%	4.7%	16.0%	10.8%	3.3%	10.2%
2006	34.9%	14.0%	6.9%	15.9%	8.3%	3.7%	16.3%
2007	38.5%	9.6%	6.9%	16.9%	11.7%	3.6%	12.8%