

**Report to the Oregon Processed Vegetable Commission  
2003-2004**

1. Title: Green Bean Breeding and Evaluation
2. Project Leaders: James R. Myers, Horticulture  
Brian Yorgey, Food Science and Technology
3. Project Status: Terminating 30 June, 2004
4. Project Funding:

\$50,151	breeding
\$19,822	processing
\$69,973	total

Breeding funds were used for a major portion of the support of a vegetable breeding technician, student labor, supplies, and research farm expenses. Processing funds were used for processing samples of experimental beans, laboratory analysis, and for student labor.

5. Objectives:
  - i. Breed Bush Blue Lake (BBL) green bean varieties with high economic yield and improved plant architecture.
  - ii. Improve pod characteristics including straightness, color, smoothness, texture, flavor and quality retention, and combine with delayed seed size development.
  - iii. Incorporate white mold resistance and improve root rot tolerance while maintaining resistance to bean common mosaic virus.
  - iv. Develop a molecular marker map to facilitate marker-assisted selection of desirable horticultural traits.
6. Report of Progress:

Bean breeding lines and commercial varieties were tested in replicated trials planted 2 May, 15 May, 2 June, 12 June and 24 June. The advanced trials planted 2 May and 2 June consisted of three check varieties and 12 advanced lines planted in two-row plots replicated six times. The 15 May and 24 June trials were preliminary trials, and consisted of one row per entry replicated two times. We altered the preliminary trials in 2003 to screen larger numbers of lines by reducing number of reps so that we could increase number of entries. These trials had three check varieties and 83 and 81 experimental lines, respectively. The 12 June trial consisted of four check varieties (two full sieve, and two small-sieve green beans), six OSU lines, and 14 commercial entries (all green beans except for one wax Romano, and one green Romano) from three seed companies.

For advanced and commercial trials, five-foot sections of row were hand-picked on each harvest date in each of four replications. In most cases, three harvests on alternate days were made to obtain a range of maturity. Replications were combined for grading. For the 15 May and 24 June preliminary trials, five foot sections of two replicates were harvested only once at harvest maturity. Data from replicated yield trials are summarized in Tables 1 - 18 and Figures 1 - 11. Root rot and white mold disease nursery data can be found in tables 19-22.

Samples were canned and frozen at the Food Science and Technology Pilot Plant for evaluation by industry representatives in February. Processed quality data will be published in a separate report.

Overall, growing season in 2003 was significantly warmer than previous years. High temperatures that affected pod set and yields were encountered during July, and split set was observed in the 2 June trial. The 24 June trial (maturing in late August) exhibited very lush growth with increased lodging. In spite of the lodging and matting of plants, white mold infection did not become severe.

**Advanced Standard Sieve OSU Lines:** For full sieve advanced lines, OSU 5630 showed exceptional performance, followed by OR 54, and OSU 5635 and OSU 5669 (summary table above and right, Tables 1-5; Figures 1-3, 10). OR 91G generally had the lowest yields. In terms of long term yield averages, OSU 5635 was similar to OR 54, followed by OSU 5669. Long term tons/acre and \$/acre values for OSU 5669 were significantly higher than OR 91G. In addition, OSU 5669 has more uniform, and improved pod color straightness and smoothness. While OSU 5635 has yield potential similar to OR 54, it is more sensitive to heat.

Five year averages for yield and \$/A values are shown (right) for full sieve advanced lines and checks. Also shown (next page) are number and percent of trials in which advanced lines outperformed the checks, as well as yield advantage over the check varieties. An experimental line would be equivalent to a check cultivar if it outperformed the check in 50% of

Season average \$/A based on			
Line	Trial averages <sup>z</sup>	Selected harvests <sup>y</sup>	Highest harvests
Oregon 91G	541	557	573
Oregon 54	677	697	707
OSU 5630	747	701	844
OSU 5635	667	698	735
OSU 5669	666	670	699
OSU 5996	582	561	602
LSD @5%	81	89	90

<sup>z</sup>Average of 2-4 harvests from 3 trials, based on weight of graded beans adjusted to 50% 1-4 sieve.

<sup>y</sup>The harvest selected as best for comparison and used for analysis of variance at 50% 1-4 sieve in tables 4 & 5.

Five year average for full sieve beans <sup>z</sup>			
Line	Five Year Average	Four Year Average	Two Year Average
Adjusted T/A			
Oregon 91G	10.5	10.3	9.5
Oregon 54	11.7	11.3	10.8
OSU 5630			10.5
OSU 5635	11.7	11.5	11.0
OSU 5669	11.3	11.1	10.5
OSU 5699		10.1	8.8
OSU 5706		10.5	9.1
OSU 5996			8.1
LSD @5%	0.3	0.9	NS
\$/A			
Oregon 91G	1235	1047	776
Oregon 54	1373	1147	883
OSU 5630			853
OSU 5635	1362	1160	891
OSU 5669	1312	1119	858
OSU 5699		1047	722
OSU 5706		1071	747
OSU 5996			667
LSD @5%	55	70	121

<sup>z</sup>Average of 4, 2, 2, 2 and 2 trials in 1999, 2000, 2001, 2002 and 2003 respectively. Based on field yields adjusted to 50% 1-4 sieve.

Number and percent of trials in which selected lines equaled or outperformed 91G and OR 54, five years combined data.								
Line	91G				OR 54			
	Total No. Trials	No. Trials $\geq$	% Tri-als $\geq$	Overall % <sup>z</sup>	Total No. Trials	No. Trials $\geq$	% Tri-als $\geq$	Overall % <sup>y</sup>
5630	26	16	62	104	26	11	42	95
5635	33	28	85	111	33	18	55	101
5669	30	22	73	106	30	13	43	98
5699	8	3	38	97	9	2	22	89
5706	8	6	75	102	9	3	33	93
5996	7	1	14	91	7	0	0	78

<sup>z</sup>Overall T/A of selected lines expressed as a percent T/A of 91G.

<sup>y</sup>Overall T/A of selected lines as a percent of OR 54.

OSU 5635 (OR 54 X OSU 5163) out-yielded OR 91G by 111% in 85% of 33 trials, and out-yielded OR 54 55% of the time with overall yield 101% of the check. OSU 5630 (OR 54 x OR 91G) had yields higher than OR 91G in 62% of 26 trials with yield 104% of OR 91G. While not tested in many trials yet, OSU 5706 (an OSU 5256 x OSU5416 cross) appears to have yield potential similar to OSU 5630. Apart from OSU 5635, no other advanced line had yields equivalent or better than OR 54.

Other lines for which multi-year data are available include OSU 5699 (OSU 5256 x OR 54), and OSU 5996 (OR 54 x Hypak). These lines have been tested for four years in the case of OSU 5699 and two years for OSU 5996. Both appear to be lower yielding than either check cultivar. While neither may be suitable as a cultivar for release, OSU 5996 is of interest because of its more upright plant architecture and persistent green pods.

Of the advanced lines, OSU 5630 and OSU 5669 are nearest release. Both show clear advantages to OR 91G in terms of processing quality and yield. There has been a question of hardseededness with OSU 5669 when grown in the intermountain region, but seed moisturized here in the Willamette Valley has acceptable germination. As long as this characteristic of OSU 5669 is managed, it should be a cultivar that provides an advantage over OR 91G.

Other standard sieve lines: Two other lines were included in advanced trials: OSU 5989, and OSU 6002 (Tables 1 – 5). Both are derived from OR 54 x Hypack, and both are persistent chlorophyll types. Neither line had any yield advantage over the traditional BBL types but both have very nice pod quality attributes that should be retained in the breeding program.

Our bottleneck in the breeding program is the ability to evaluate large numbers of breeding lines in a way that allows us to efficiently funnel the best lines in advanced trials. Many of the lines now reaching homozygosity are from BBL x non BBL crosses, and while carrying desirable traits, may lack certain processing characteristics or yield equivalent to existing Oregon BBL lines. To assist in giving larger quantities of material a first look, we conducted two preliminary trials this season with the same set of approximately 100 entries in each. To accommodate the workload, we had to reduce the number of rep-

the trials with an equivalent (100%) overall yield of the check cultivar. OSU 5669 (OSU 5256 x OR 54) demonstrated its yield superiority by exhibiting greater yields than OR 91G in 73% of 30 trials conducted over the past five years and out-yielded OR 91G on average by 106%.

licates and the number of sequential harvests. Therefore, the data are not as accurate, but can allow us to eliminate the worst 50%.

Of the lines shown in tables 11, 13, 15 and 17, the 6100 and 6200 series represent crosses of Oregon BBL lines to either Maxima or Minuette. Very few of the Maxima crosses appear useful, but the Minuette crosses are represented by a number of lines with improved plant architecture and darker green pod color. The four best preliminary lines are: OSU 6104 (Maxima x OSU 5256), OSU 6126, OSU 6137 (both Minuette x OR91G), and OSU 6193 (Minuette x OR 54). These lines had the best overall scores for yield, maturity, growth habit, pod concentration, and pod quality characteristics. OSU 6204 is another line with good performance, but pods may be too oval. These trials appear useful in

Season Average \$/A based on			
Line	Trial Averages	Selected Harvests <sup>y</sup>	Highest Harvests
OSU 5613	331	335	382
OSU 5835	387	375	430
OSU 5944	396	427	453
OSU 5902	283	326	326
OSU 6100	377	366	448
Minuette	288	310	310
LSD @ 5%	NS	NS	86

<sup>x</sup>Average of 1-4 harvests from 2 trials, based on weight of graded beans.

<sup>y</sup>The harvest selected as best for comparison and used for analysis of variance in table 8.

OSU 5944 is predominantly three sieve. OSU 5835 has excellent pod attributes except

Two & three year average for small sieve beans <sup>z</sup>				
Line	T/A		\$/A	
	2002-2003	2001-2003	2002-2003	2001-2003
5613	5.8	6.9	506	605
5835	7.7	9.1	642	810
5944	5.5	6.7	473	581
5902	5.4		491	
6100	6.8		596	
Minuette	4.9	6.1	418	590
LSD @ 5%	NS	1.6	NS	193

<sup>z</sup>Average of 2 trials each year. Yields are field yields.

also had excellent \$/A values, averaging higher than OSU 5835. OSU 5902 and OSU 6100 were also tested in advanced trials. OSU 5902 (OSU 5446 x Teseo), is a sister line to OSU 5944 with high quality pods and similar yields. OSU 6100 (OR 91G X Maxima), has sieve size distribution similar to OSU 5835, but somewhat lower yields. It has long round pods and might represent a compromise between yield and pod quality that OSU 5835 does not possess.

In preliminary trials, 51 entries with BBL x Minuette background were evaluated. Seventeen of the entries appear to have performed well in both trials (highlighted in Table 12). These entries range in maturity, with most being high yielding in both trials with

making a first cut in the preliminary materials.

**Small Sieve Beans:** (Tables 6-8, 12, 14,16,18, Figures 4-6, 11). OSU 5613, and Minuette were used as checks for comparison to small sieve beans. Minuette produces a majority of three and four sieve beans while OSU 5613 produce three sieve as the largest class. In advanced trials, OSU 5835 (OR 54 x OSU 5446), and OSU 5944 (OSU 5446 x Teseo) were again tested, and both showed very good yields.

The former is a four-sieve bean whereas the latter is a three-sieve bean. OSU 5944 is predominantly three sieve. OSU 5835 has excellent pod attributes except for pod cross-section, which is heart to round in shape. It is the best of the OSU 5446 crosses for pod quality, and has yield superior to all other small sieve beans (equivalent to full sieve beans in many cases). It had among the highest \$/A values of the small sieve green beans in 2003 (tables, right). In four years of 11 trials, OSU 5835 outperformed Minuette in 91% of trials with a yield advantage of 142% (table next page). OSU 5944 has excellent pod quality, including a dark green color, and would be a suitable replacement for the Medinah class of small sieve beans. It

good pod quality characteristics and good plant growth habit. Nearly  $\frac{3}{4}$  of the lines selected from the BBL x Minuette crosses are small or intermediate sieve size. While we would have liked to have seen greater numbers of standard sieve size lines, several

factors appear to bias the population towards small sieve size. First, large pods are controlled by a recessive genetic factor such that in any sample from a segregating population from a cross between a large- and a small-sieve line, only  $\frac{1}{4}$  of the progeny will be full sieve. Secondly, it appears difficult to combine high yield with large, long pods and upright growth habit. It is much easier to obtain plants with good growth habit that resist lodging when they have small pods. Small pods are also usually associated with shorter pod length and lower yields – both traits associated with reduced lodging. From this first round of selections, we hope to obtain useful lines that recombine full sieve size with high yields and good growth habit, but backcrossing of this material to BBL material will be needed to further improve existing cultivars. We will be culling small and intermediate sieve lines rigorously to allow greater focus on the full sieve materials.

**Commercial Bean Trial:** Varieties supplied by private breeders were grown in a commercial trial planted on 12 June (Tables 9 and 10, Figures 7 and 8). In this trial, the highest yielding group were the Oregon BBL lines. Comparable in yield were two related lines (SB 4249 and SB 4257). The former has been tested for four years and appears closest of any of the commercial lines to a BBL type. WBL 434 had relatively high yields for its sieve size class. This trial was exposed to heat during bloom and pod fill as evidenced by the very poor yield of the check, Minuette. Romano Gold had 10 T/A yields and appears adapted to the valley.

**Molecular Mapping Research:** The OSU 5630 x Minuette recombinant inbred population was not grown this year, but molecular mapping continued with the placement of additional molecular markers and quantitative trait loci on the map. The map now consists of 124 markers in 12 linkage groups (bean has 11 chromosomes) for a total map length of about 400 cM (complete linkage maps of bean are about 1700 cM in length). A number of traits, including pod color, length, width, size, fiber, plant height have been mapped. One region on linkage group 7 appears to have a major effect on pod shape and fiber. Evidence is accumulating that different sets of genes control the snap bean phenotype in Oregon BBL beans compared to Midwestern derived snap beans.

**Root rot and white mold trials:** The root rot nursery was expanded in 2003 to include 326 lines (14 checks and 312 experimental lines) (Table 19). The majority of these lines were derived from three single seed descent derived populations of BBL parents (OR 54, OR 91G and OSU 5613) crossed to the root rot resistant kidney bean germplasm line FR 266

Number and percent of trials in which selected small sieve lines equaled or outperformed Minuette, 4 years combined data							
Line	Total No. Trials	T/A <sup>z</sup>			\$/A <sup>y</sup>		
		No. Trials $\geq$	% Tri-als $\geq$	Overall % <sup>z</sup>	No. Trials $\geq$	% Tri-als $\geq$	Overall % <sup>y</sup>
5835	11	10	91	142	10	91	131
5944	10	6	60	110	5	50	111
5902	4	3	75	111	3	75	107
6001	4	4	100	137	4	100	138

<sup>z</sup>Overall T/A expressed as a percent T/A of Minuette.

<sup>y</sup>Overall \$/A expressed as a percent \$/A of Minuette.

developed by the USDA-ARS bean breeding program at Prosser, Washington. Each line was replicated once with readings taken from two samples per plot where enough plants were available. Germination was reduced and plants were somewhat stunted in the trial, which enabled us to get a useful reading on the root rot resistance potential of lines. Data on proportion of roots infected were collected at physiological maturity. Growth habit, pod fiber, and overall plant vigor was also noted. The resistant check RR 6950 had an overall rating of 0.5 (on a 1 – 5 scale), the susceptible OSU 5446 was rated 3.6, and OR 91G had an intermediate rating of 2.0. Ten lines had ratings of 1.8 or less. Scores for each population were normally distributed. We discarded approximately half the lines and will retest the remainder again next year.

The white mold nursery contained 178 breeding lines and 32 check entries. Our major effort was to evaluate a series of backcross-inbred derived lines that incorporated white mold resistance from several sources into an Oregon BBL background. These lines had been developed in previous years with selection using the greenhouse based straw test assay for white mold resistance. Lines were replicated twice in the 2003 nursery with regular checks included in each tier. Lines were rated at maturity for severity of white mold infection (Table 20). One cross combination [OSU5669/(OSU5669/(OR91G/Asher 1-DR)F<sub>1</sub>)F<sub>2</sub>-11, plots 6304 – 6368] appeared entirely devoid of resistance, but other cross combinations had about ¼ to ½ of the plants with some degree of resistance. These lines are very close to the BBL type and if sufficient seed is available, should be advanced to preliminary trials next year.

Overall white mold infection this year was somewhat lower than past years, presumably due to the higher summer temperatures. As a result, interaction between growth habit and infection played a larger role as show in Tables 21 and 22. Relative ranking for resistance stayed mostly the same over the past five years (Table 22).

Development and evaluation of new materials: Selection continues in the Oregon blue lake X Minuette crosses to obtain lines with improved architecture. Many selections from these crosses also have extremely dark green pods. This material was harvested as small bulks, so seed will be available for testing in replicated trials next year. Other crosses have been made, and populations are being advanced for white mold resistance, additional sources of improved architecture and general population improvement within the blue lake background.

#### 7. Summary:

Five yield and processing trials were conducted at about two week intervals during 2003. Data from two advanced trials support release of OSU 5630 and OSU 5669. Among small sieve lines, OSU 5835 (a four sieve bean) and OSU 5944 (a three sieve line) are of interest. Two preliminary line trials, consisting of approximately 100 lines, were grown to evaluate BBL x Minuette crosses. A trial of mostly commercial varieties was also planted in mid season. A number of promising lines of all sieve sizes were tested in preliminary trials. Many of these have combined the good pod quality of the BBL types with the superior plant architecture of Minuette. Three populations based on crossing BBL materials to FR266, a root rot resistant kidney bean were evaluated for root rot resistance. A series of backcross inbred derived lines were evaluated in white mold trials. A number of these lines have partial white mold resistance in a BBL background.

**Table 1. Yields of advanced OSU standard green bean lines, May 2 Planting, Corvallis, 2003.<sup>z</sup>**

Line	Av. Stand	Days	% 1-4	T/A	Adj. 50%	Adj. 60%	Av. Adj. T/A 50% <sup>y</sup>	Av. Adj. T/A 60% <sup>y</sup>
91G	150	68	62	5.7	6.3	5.7*	6.4	5.9
		69	55	5.8	6.1	5.6		
		70	46	7.2	6.9*	6.4		
		73	27	8.1	6.2	5.9		
OR 54	150	71	78	5.5	7.0	6.3	7.5	6.8
		73	53	7.5	7.7*	7.0*		
		74	53	7.6	7.8	7.2		
5630	150	70	60	6.1	6.7	6.1	7.8	7.2
		71	61	7.0	7.8*	7.1*		
		73	47	9.3	9.0	8.3		
5635	150	73	55	7.7	8.1*	7.3*	7.9	7.2
		74	45	8.0	7.6	7.0		
5669	150	70	58	6.6	7.1	6.5*	7.6	7.0
		71	55	7.8	8.2*	7.5		
		73	37	8.6	7.5	7.0		
5699	150	69	61	4.7	5.3	4.8*	5.8	5.4
		70	49	5.6	5.5*	5.1		
		73	40	7.4	6.7	6.2		
5706	150	71	70	5.4	6.5	5.8	7.0	6.4
		73	55	7.1	7.5*	6.9*		
5996	150	73	48	6.4	6.3*	5.8*	6.5	6.0
		74	36	7.7	6.7	6.2		
6002	150	70	61	5.5	6.2*	5.6*	6.4	5.9
		71	62	5.7	6.3	5.7		
		73	50	6.8	6.8	6.3		

<sup>z</sup>Mean of 4 replications; subplots of 5' were harvested from double 20' plots on each harvest date; rows 36" apart; days = days from planting; % = percent 1-4 sieve grades; adj. 50% = tons/acre adjusted to 50% 1-4 sieve; adj. 60% = tons/acre adjusted to 60% 1-4 sieve. Analysis of variance (Tables 4 & 5) was calculated using the harvest marked with \*.

<sup>y</sup>Average Adj. T/A is a rough estimate because of non-uniform number of harvests included.

**Table 2. Yields of advanced OSU standard green bean lines, June 2 Planting, Corvallis, 2003.<sup>z</sup>**

Line	Av. Stand	Days	% 1-4	T/A	Adj. 50%	Adj. 60%	Av. Adj. T/A 50% <sup>y</sup>	Av. Adj. T/A 60% <sup>y</sup>
91G	140	63	71	6.0	7.2	6.5	7.4	6.7
		64	58	6.9	7.5*	6.8*		
OR 54	140	64	67	7.4	8.7*	7.9*	8.7	7.8
5630	140	63	85	7.7	10.5	9.4	9.7	8.7
		64	77	7.0	9.0*	8.0*		
5635	140	65	76	6.1	7.7	7.0	8.6	7.7
		67	73	7.6	9.4*	8.4*		
5669	140	63	61	8.4	9.3	8.5*	8.9	8.2
		64	48	8.7	8.5*	7.8		
5699	140	62	82	6.0	8.0	7.2	7.2	6.4
		63	82	5.3	7.0	6.3		
		64	68	5.5	6.5*	5.8*		
5706	131	65	68	6.3	7.0*	6.3*	7.0	6.3
5996	135	63	79	5.7	7.3	6.5	7.3	6.6
		64	65	6.4	7.3*	6.6*		
5989	140	63	56	6.7	7.2*	6.5*	7.1	6.5

<sup>z</sup>Mean of 4 replications; subplots of 5' were harvested from double 20' plots on each harvest date; rows 36" apart; days = days from planting; % = percent 1-4 sieve grades; adj. 50% = tons/acre adjusted to 50% 1-4 sieve; adj. 60% = tons/acre adjusted to 60% 1-4 sieve. Analysis of variance (Tables 4 & 5) was calculated using the harvest marked with \*.

<sup>y</sup>Average Adj. T/A is a rough estimate because of non-uniform number of harvests included.



Table 3. Dollar return/acre for standard OSU bean lines in 2 advanced trials, Corvallis, 2003.<sup>z</sup>

Trial	Line	Harvest 1			Harvest 2			Harvest 3			Harvest 4			Avg. \$/A <sup>y</sup>
		Days	%	\$	Days	%	\$	Days	%	\$	Days	%	\$	
1 2-May	91G	68	62	471	69	55	480	70	46	537	73	27	495	496
	OR 54	71	78	536	73	53	596	74	53	626				586
	5630	70	60	530	71	61	630	73	47	732				631
	5635	73	55	627	74	45	591							609
	5669	70	58	550	71	55	634	73	37	588				591
	5699	69	61	422	70	49	408	73	40	501				444
	5706	71	70	526	73	55	581							554
	5996	73	48	487	74	36	501							494
	6002	70	61	514	71	62	490	73	50	551				518
3 2-Jun	91G	63	71	519	64	58	585							552
	OR 54	64	67	641										641
	5630	63	85	882	64	77	725							804
	5635	65	76	514	67	73	702							608
	5669	63	61	716	64	48	668							692
	5699	62	82	593	63	82	499	64	68	504				532
	5706	65	68	553										553
	5996	63	79	627	64	65	584							606
	5989	63	56	600										600

<sup>z</sup>Dollar values were calculated using the weight of graded beans, based on a value of \$119 for 1-4 sieve pods; \$44 for 5 and 6 sieve pods. Values will be lower than those reported in Table 5 because some beans are lost in the grading process.

<sup>y</sup>Average \$/acre is a rough estimate because of non-uniform number of harvests included.

**Table 4. Statistical comparison of yields of standard OSU bean lines, Corvallis, 2003.<sup>2</sup>**

	Line	Trial 1	Trial 3	Comm. Trial	Average Trials 1 & 3	Average all 3 Trials
T/A adj. 50%	91G	6.9	7.5	6.8	7.2	7.1
	OR 54	7.7	8.7	10.8	8.2	9.1
	5630	7.8	9.0	9.5	8.4	8.8
	5635	8.1	9.4	9.8	8.8	9.1
	5669	8.2	8.5	9.0	8.4	8.6
	5699	5.5	6.5		6.0	
	5706	7.5	7.0		7.3	
	5996	6.3	7.3	7.9	6.8	7.2
	6002	6.2				
	5989		7.2			
	LSD @5%	1.2	1.9	1.8	1.1	1.0
T/A adj. 60%	91G	5.7	6.8	6.3	6.3	6.3
	OR 54	7.0	7.9	8.7	7.5	7.9
	5630	7.1	8.0	8.7	7.6	7.9
	5635	7.3	8.4	8.4	7.9	8.0
	5669	6.5	8.5	8.7	7.5	7.9
	5699	4.8	5.8		5.3	
	5706	6.9	6.3		6.6	
	5996	5.8	6.6	8.1	6.2	6.8
	6002	5.6				
	5989		6.5			
	LSD @ 5%	1.1	1.5	1.8	1.0	1.0

<sup>2</sup>Based on one selected harvest for each variety, usually the harvest closest to 50% 1-4 sieve (for adj 50%) or 60% 1-4 sieve (for adj 60%), marked with a \* in Tables 1, 2 and 10. Yields are based on field yields of 1-6 sieve beans.

**Table 5. Statistical comparison of dollar value of standard OSU bean lines, Corvallis, 2003.<sup>2</sup>**

	Line	Trial 1	Trial 3	Comm. Trial	Average Trials 1 & 3	Average all 3 Trials
\$/A adj. 50%	91G	565	604	553	585	574
	OR 54	629	699	881	664	736
	5630	630	716	772	673	706
	5635	653	749	798	701	733
	5669	664	692	730	678	695
	5699	450	521		485	
	5706	607	562		584	
	5996	515	588	642	551	582
	6002	494				
	5989		581			
	LSD @5%	94	151	160	87	80
\$/A adj. 60%	91G	510	604	553	557	556
	OR 54	629	699	775	664	701
	5630	630	716	774	673	707
	5635	653	749	748	701	717
	5669	577	755	818	666	717
	5699	426	521		474	
	5706	607	562		584	
	5996	515	588	725	551	609
	6002	494				
	5989		581			
	LSD @ 5%	101	137	160	87	76

<sup>2</sup>Based on one selected harvest for each variety, usually the harvest closest to 50% 1-4 sieve (for adj 50%) or 60% 1-4 sieve (for adj 60%), marked with a \* in Tables 1, 2 & 10. Yields are based on field yields of 1-6 sieve beans.

Table 6. Performance of advanced small sieve green bean lines May 2 Planting, Corvallis, 2003.

Line	AV Stand	Days	Percent Sieve Size <sup>z</sup>						Tons/Acre Sieve Size						Graded Total <sup>y</sup>	\$/Acre <sup>x</sup>
			1	2	3	4	5	6	1	2	3	4	5	6		
5613	150	68	10	52	38	0	0	0	0.22	1.09	0.78	0.00	0.00	0.00	2.09	180
		70	5	23	41	31	0	0	0.17	0.78	1.44	1.09	0.00	0.00	3.48*	299
		73	6	16	42	32	4	0	0.30	0.74	2.00	1.52	0.17	0.00	4.74	393
5835	150	68	5	15	26	45	8	0	0.22	0.61	1.09	1.87	0.35	0.00	4.13	329
		69	4	9	21	49	17	0	0.17	0.39	0.91	2.13	0.74	0.00	4.35*	328
		70	5	10	21	48	16	0	0.30	0.57	1.17	2.74	0.91	0.00	5.70	432
5944	150	73	2	5	13	40	39	2	0.13	0.26	0.70	2.13	2.09	0.09	5.39	342
		67	13	42	37	8	0	0	0.48	1.52	1.35	0.30	0.00	0.00	3.65	314
		69	7	22	46	23	3	0	0.30	1.00	2.13	1.09	0.13	0.00	4.65	389
5902	150	70	6	21	39	29	5	0	0.35	1.17	2.13	1.61	0.26	0.00	5.52*	453
		73	2	9	35	50	4	0	0.13	0.57	2.13	3.05	0.22	0.00	6.09	505
		68	10	21	34	34	2	0	0.26	0.57	0.91	0.91	0.04	0.00	2.70	228
6100	150	70	4	27	34	31	4	0	0.13	0.83	1.04	0.96	0.13	0.00	3.09	254
		73	2	16	39	39	5	0	0.09	0.70	1.70	1.70	0.22	0.00	4.39*	359
		68	10	14	24	37	14	1	0.35	0.48	0.83	1.26	0.48	0.04	3.44	262
Minnette	132	69	10	14	22	36	17	1	0.39	0.57	0.87	1.44	0.70	0.04	4.00	298
		70	5	14	23	41	17	1	0.22	0.65	1.13	1.96	0.83	0.04	4.83*	361
		73	4	7	16	38	28	7	0.26	0.48	1.04	2.48	1.87	0.48	6.61	436
		73	5	18	40	36	2	0	0.13	0.48	1.09	0.96	0.04	0.00	2.70	224
		74	2	11	31	55	1	0	0.09	0.39	1.17	2.04	0.04	0.00	3.74*	312

<sup>z</sup>Percent calculated as % of total of 1-6 sieve beans.

<sup>y</sup>Total tons/acre of graded beans, including sieve sizes 1-6. Values will be lower than those reported in Table 8 because some beans are lost in the grading process. Analysis of variance (Table 8) was calculated using the harvest marked with \*

<sup>x</sup>\$/acre based on \$84/ton (1-4 sieve); \$33/ton (5-6 sieve) for intermediate sieve beans (5835, 6100, Minnette), and \$86/ton (1-4 sieve); \$0/ton (5-6 sieve) for small sieve beans (5613, 5944, 5902).

Table 7. Performance of advanced small sieve green bean lines, June 2 Planting, Corvallis, 2003.

Line	AV Stand	Days	Percent Sieve Size <sup>z</sup>						Tons/Acre Sieve Size						Graded Total <sup>y</sup>	\$/Acre <sup>x</sup>
			1	2	3	4	5	6	1	2	3	4	5	6		
5613	150	63	12	32	47	9	0	0	0.52	1.39	2.00	0.39	0.00	0.00	4.31*	370
5835	150	60	13	20	29	33	5	0	0.70	1.04	1.48	1.70	0.26	0.00	5.18*	422
		62	12	15	21	48	4	0	0.57	0.74	1.04	2.35	0.17	0.00	4.87	400
		63	7	11	24	46	12	0	0.39	0.61	1.31	2.52	0.65	0.00	5.48	427
5944	134	63	15	39	34	12	0	0	0.61	1.61	1.39	0.48	0.00	0.00	4.09	352
		64	13	36	35	17	0	0	0.61	1.65	1.61	0.78	0.00	0.00	4.65*	400
5902	150	64	15	46	32	7	0	0	0.48	1.48	1.04	0.22	0.00	0.00	3.22	277
		65	8	44	40	9	0	0	0.26	1.48	1.35	0.30	0.00	0.00	3.39*	292
6100	150	64	6	18	32	37	8	0	0.26	0.83	1.48	1.70	0.35	0.00	4.6*	370
		66	2	13	34	47	3	0	0.13	0.74	1.91	2.61	0.17	0.00	5.57	459
Minulette	139	66	4	17	48	34	1	0	0.13	0.61	1.65	1.26	0.04	0.00	3.7*	308

<sup>z</sup>Percent calculated as % of total of 1-6 sieve beans.

<sup>y</sup>Total tons/acre of graded beans, including sieve sizes 1-6. Values will be lower than those reported in Table 8 because some beans are lost in the grading process. Analysis of variance (Table 8) was calculated using the harvest marked with \*.

<sup>x</sup>\$/acre based on \$84/ton (1-4 sieve); \$33/ton (5-6 sieve) for intermediate sieve beans (5835, Minulette), and \$86/ton (1-4 sieve); \$0/ton (5-6 sieve) for small sieve beans (5613, 5944).

**Table 8. Statistical comparison of yields and dollar return of small sieve OSU green bean lines, Corvallis, 2003.<sup>2</sup>**

Line	Trial 1	Trial 3	Comm. Trial	Average Trials 1 & 3	Average all 3 Trials
	Tons/Acre				
5613	3.9	4.9		4.4	
5835	5.0	5.6	7.2	5.3	5.9
5944	5.1	4.8	5.4	4.9	5.1
5902	4.5	3.6		4.1	
6100	4.9	4.4		4.7	
Minuette	4.0	3.9	2.5	3.9	3.5
LSD @ 5%	NS	NS	1.8	0.8	1.1
\$/Acre					
5613	337	419		378	
5835	377	453	560	415	464
5944	420	412	464	416	432
5902	370	310		340	
6100	364	356		360	
Minuette	330	256	201	293	262
LSD @ 5%	NS	105	139	69	85

<sup>2</sup>Based on one selected harvest for each variety in each trial, which was the middle harvest, unless sieve size distribution or notes indicated the variety was over mature (marked with \* on Tables 6, 7 & 10). Yields are field yields of 1-6 sieve beans.

Table 9. Performance of commercial green bean varieties, June 12 planting, Corvallis, 2003.

Variety	Source	AV Stand	Intended Use	Days	Percent Sieve Size <sup>z</sup>						Tons/Acre Sieve Size						Graded Total <sup>y</sup>	\$/Acre <sup>x</sup>	
					1	2	3	4	5	6	1-4	1	2	3	4	5			6
91G	OSU	149	full sieve	60	3.1	3.1	6.8	32.9	49.7	4.3	46.0	0.22	0.22	0.48	2.31	3.48	0.30	7.00*	550
				62	3.3	2.3	2.8	18.1	56.7	16.7	26.5	0.30	0.22	0.26	1.70	5.31	1.57	9.35	597
OR 54	OSU	150	full sieve	61	3.9	5.6	15.0	54.4	20.0	1.1	78.9	0.30	0.44	1.17	4.26	1.57	0.09	7.83	808
				62	3.1	5.2	10.9	40.9	37.3	2.6	60.1	0.26	0.44	0.91	3.44	3.13	0.22	8.40	748
5630	OSU	150	full sieve	64	4.4	6.5	7.7	28.2	47.2	6.0	46.8	0.48	0.70	0.83	3.05	5.09	0.65	10.79*	853
				60	4.6	5.5	12.4	48.4	28.1	0.9	71.0	0.44	0.52	1.17	4.57	2.65	0.09	9.44	918
5635	OSU	150	full sieve	61	1.5	3.5	9.5	42.5	39.5	3.5	57.0	0.13	0.30	0.83	3.70	3.44	0.30	8.70	755
				63	1.8	2.7	6.8	33.3	50.0	5.4	44.6	0.17	0.26	0.65	3.22	4.83	0.52	9.66*	748
5669	OSU	150	full sieve	62	7.4	5.8	8.5	35.4	39.2	3.7	57.1	0.61	0.48	0.70	2.91	3.22	0.30	8.22	714
				64	4.1	7.3	10.0	26.4	45.0	7.3	47.7	0.39	0.70	0.96	2.52	4.31	0.70	9.57*	764
5996	OSU	145	full sieve	65	4.8	8.1	9.3	27.4	43.1	7.3	49.6	0.52	0.87	1.00	2.96	4.65	0.78	10.79	876
				60	3.3	3.9	11.7	49.4	30.0	1.7	68.3	0.26	0.30	0.91	3.87	2.35	0.13	7.83	746
08120670	Seminis	150	full sieve	61	2.0	3.1	7.1	39.8	43.9	4.1	52.0	0.17	0.26	0.61	3.39	3.74	0.35	8.53*	708
				63	1.4	2.7	5.9	28.3	53.4	8.2	38.4	0.13	0.26	0.57	2.70	5.09	0.78	9.53	693
08110633	Seminis	150	full sieve	61	4.3	6.7	12.2	45.1	29.3	2.4	68.3	0.30	0.48	0.87	3.22	2.09	0.17	7.13	679
				63	2.9	6.5	9.4	32.9	41.2	7.1	51.8	0.22	0.48	0.70	2.44	3.05	0.52	7.40*	612
SB 4261	Syngenta	150	full sieve	60	1.8	3.5	6.5	30.6	54.7	2.9	42.4	0.13	0.26	0.48	2.26	4.05	0.22	7.40*	560
				61	1.1	2.7	5.5	31.1	54.1	5.5	40.4	0.09	0.22	0.44	2.48	4.31	0.44	7.96	592
SB 4249	Syngenta	150	full sieve	63	1.1	1.7	2.8	21.3	60.1	12.9	27.0	0.09	0.13	0.22	1.65	4.65	1.00	7.74	497
				57	3.8	8.3	19.5	49.6	18.0	0.8	81.2	0.22	0.48	1.13	2.87	1.04	0.04	5.79	607
SB 4257	Syngenta	150	full sieve	60	2.2	3.9	6.1	26.3	50.8	10.6	38.5	0.17	0.30	0.48	2.04	3.96	0.83	7.79*	568
				61	1.2	3.1	5.0	25.5	52.2	13.0	34.8	0.09	0.22	0.35	1.78	3.65	0.91	7.00	491
5835	OSU	150	4 sieve	60	2.4	2.4	4.9	23.8	50.0	16.5	33.5	0.17	0.17	0.35	1.70	3.57	1.17	7.13*	493
				61	1.9	1.9	3.2	15.5	45.8	31.6	22.6	0.13	0.13	0.22	1.04	3.09	2.13	6.74	411
0811608	Seminis	150	4 sieve	60	4.8	4.3	8.6	36.2	41.4	4.8	53.8	0.44	0.39	0.78	3.31	3.78	0.44	9.14*	771
				62	2.7	5.0	5.9	25.2	50.0	11.3	38.7	0.26	0.48	0.57	2.44	4.83	1.09	9.66	705
				61	2.0	5.3	15.2	51.0	25.2	1.3	73.5	0.13	0.35	1.00	3.35	1.65	0.09	6.57	651
				62	3.1	4.3	11.8	47.2	31.1	2.5	66.5	0.22	0.30	0.83	3.31	2.18	0.17	7.00	657
				64	3.2	4.2	5.8	39.5	44.2	3.2	52.6	0.26	0.35	0.48	3.26	3.65	0.26	8.27*	690
				60	3.8	6.9	21.3	61.3	6.9	0.0	93.1	0.26	0.48	1.48	4.26	0.48	0.00	6.96	560
				61	1.9	5.6	17.5	62.5	12.5	0.0	87.5	0.13	0.39	1.22	4.35	0.87	0.00	6.96*	540
				63	2.3	5.7	12.5	58.0	21.6	0.0	78.4	0.17	0.44	0.96	4.44	1.65	0.00	7.66	559
				62	2.3	2.3	6.2	35.4	47.7	6.2	46.2	0.13	0.13	0.35	2.00	2.70	0.35	5.66*	320
				63	3.8	2.3	4.5	26.3	57.1	6.0	36.8	0.22	0.13	0.26	1.52	3.31	0.35	5.79	300
				64	5.3	5.3	3.3	20.0	52.0	14.0	34.0	0.35	0.35	0.22	1.31	3.39	0.91	6.53	328

Table 9. Performance of commercial green bean varieties, June 12 planting, Corvallis, 2003 (cont.).

Variety	Source	AV Stand	Intended Use	Days	Percent Sieve Size <sup>2</sup>						Tons/Acre Sieve Size						Graded Total <sup>y</sup>	\$/Acre <sup>x</sup>	
					1	2	3	4	5	6	1-4	1	2	3	4	5			6
08190505	Seminis	150	4 sieve	61	5.6	16.8	50.4	26.4	0.8	0.0	99.2	0.30	0.91	2.74	1.44	0.04	0.00	5.44	455
				63	4.4	11.3	38.8	45.0	0.6	0.0	99.4	0.30	0.78	2.70	3.13	0.04	0.00	6.96*	582
				65	4.5	6.5	31.2	56.3	1.5	0.0	98.5	0.39	0.57	2.70	4.87	0.13	0.00	8.66	720
WBL 434	Seminis	150	4 sieve	62	4.2	4.8	15.8	69.1	6.1	0.0	93.9	0.30	0.35	1.13	4.96	0.44	0.00	7.18	581
				63	2.3	3.4	13.8	69.5	10.9	0.0	89.1	0.17	0.26	1.04	5.26	0.83	0.00	7.57*	594
				64	1.6	4.2	10.4	65.6	17.7	0.5	81.8	0.13	0.35	0.87	5.48	1.48	0.04	8.35	624
SB 4263	Syngenta	150	4 sieve	57	3.8	14.2	28.3	50.0	3.8	0.0	96.2	0.17	0.65	1.31	2.31	0.17	0.00	4.61	378
				60	3.5	5.2	13.0	73.0	5.2	0.0	94.8	0.17	0.26	0.65	3.65	0.26	0.00	5.00*	407
				62	2.2	1.1	5.1	29.8	53.4	8.4	38.2	0.17	0.09	0.39	2.31	4.13	0.65	7.74	406
Keeper	Pure Line	138	4 sieve	60	6.1	8.3	18.2	40.2	25.0	2.3	72.7	0.35	0.48	1.04	2.31	1.44	0.13	5.74	402
				61	4.3	5.4	8.7	39.1	34.8	7.6	57.6	0.17	0.22	0.35	1.57	1.39	0.30	4.00*	250
				63	8.9	7.9	9.9	25.7	47.5	0.0	52.5	0.39	0.35	0.44	1.13	2.09	0.00	4.39	263
Igloo	Pure Line	150	4 sieve	61	2.8	6.4	12.8	57.8	20.2	0.0	79.8	0.13	0.30	0.61	2.74	0.96	0.00	4.74	349
				63	7.3	5.3	9.3	45.3	31.3	1.3	67.3	0.48	0.35	0.61	2.96	2.04	0.09	6.53*	439
				65	6.7	8.3	15.0	38.9	29.4	1.7	68.9	0.52	0.65	1.17	3.05	2.31	0.13	7.83	533
Minnette	Harris Moran	146	4 sieve	62	15.8	18.4	26.3	34.2	5.3	0.0	94.7	0.26	0.30	0.44	0.57	0.09	0.00	1.65	134
				64	5.9	15.7	25.5	47.1	5.9	0.0	94.1	0.13	0.35	0.57	1.04	0.13	0.00	2.22*	180
				60	5.6	27.0	55.1	12.4	0.0	0.0	100.0	0.22	1.04	2.13	0.48	0.00	0.00	3.87	333
5944	OSU	126	3 sieve	62	4.3	16.2	51.3	28.2	0.0	0.0	100.0	0.22	0.83	2.61	1.44	0.00	0.00	5.09*	438
				64	4.8	15.3	38.7	39.5	1.6	0.0	98.4	0.26	0.83	2.09	2.13	0.09	0.00	5.39	456
				60	5.3	18.0	60.7	12.7	3.3	0.0	96.7	0.35	1.17	3.96	0.83	0.22	0.00	6.53*	542
GB 87	Pure Line	150	3 sieve	62	5.0	12.9	51.8	29.5	0.7	0.0	99.3	0.30	0.78	3.13	1.78	0.04	0.00	6.05	516
				64	3.4	10.7	53.7	31.5	0.7	0.0	99.3	0.22	0.70	3.48	2.04	0.04	0.00	6.48	554
				61	9.4	51.6	39.1	0.0	0.0	0.0	100.0	0.26	1.44	1.09	0.00	0.00	0.00	2.78	239
Medinah	Syngenta	150	3 sieve	63	7.6	28.3	58.7	5.4	0.0	0.0	100.0	0.30	1.13	2.35	0.22	0.00	0.00	4.00*	344

<sup>2</sup>Percent calculated as % of total of 1-6 sieve beans.

<sup>y</sup>Total tons/acre of the graded beans, including sieve sizes 1-6. Values will be lower than those reported in Table 10 because some beans are lost in the grading process.

<sup>x</sup>\$/acre based on \$119/ton for 1-4 sieve and \$44/ton for 5-6 sieve for full sieve beans; \$84/ton for 1-4 sieve and \$33/ton for 5-6 sieve for 4 sieve beans; and \$86/ton for 1-4 sieve and \$0/ton for 5-6 sieve for 3 sieve beans.



**Table 10. Statistical comparison of yields and dollar return of commercial green bean lines, Corvallis, 2003<sup>2</sup>.**

Line	Intended Use	T/A Unadjusted	T/A Adjusted <sup>y</sup>	\$/A
91G	full sieve	7.1	6.8	553
OR 54	full sieve	11.2	10.8	881
5630	full sieve	10.0	9.5	772
5635	full sieve	10.0	9.8	798
5669	full sieve	8.8	9.0	730
5996	full sieve	7.7	7.9	642
0812670	full sieve	7.7	7.0	580
08110633	full sieve	8.0	7.1	584
SB 4261	full sieve	7.4	6.3	514
SB 4249	full sieve	9.5	9.9	804
SB 4257	full sieve	8.7	9.0	730
5835	4 sieve	7.2	7.2	560
0811608	4 sieve	6.9	6.9	346
08190505	4 sieve	7.3	7.3	612
WBL 434	4 sieve	7.9	7.9	621
SB 4263	4 sieve	7.6	7.6	619
Keeper	4 sieve	4.2	4.2	263
Igloo	4 sieve	7.0	7.0	472
Minuette	4 sieve	2.5	2.5	201
5944	3 sieve	5.4	5.4	464
GB 87	3 sieve	6.6	6.6	550
Medinah	3 sieve	4.1	4.1	352
Romano Gold	romano	10.0		
Roma 118	romano	7.0		
LSD @5%		1.8	1.8	139

<sup>2</sup>Based on one selected harvest for each variety (marked with \* on Table 9), which was the harvest closest to optimal based on that variety's intended use (50% 1-4 sieve for full sieve). Yields are field yields of 1-6 sieve beans.

<sup>y</sup>Full sieve beans were adjusted to 50% 1-4 sieve; all others were unadjusted.

Table 11. Performance of preliminary full sieve green bean lines, May 15 planting, Corvallis, 2003.<sup>z</sup>

Line	Days to Harvest	Est. Sieve Size	Percent Sieve Size <sup>y</sup>						%1-4 Sieve	Av Tons/Acre	Av Adj Tons/Acre <sup>x</sup>
			1	2	3	4	5	6			
91G	63	full	4.0	4.8	12.0	40.8	33.6	4.8	61.6	11.1	12.5
OR54	68	full	2.2	5.1	11.8	39.0	39.7	2.2	58.1	12.4	13.4
5630	67	full	2.3	3.8	10.6	52.3	25.8	5.3	68.9	11.6	13.8
5635	67	full	0.9	7.8	18.3	40.9	29.6	2.6	67.8	10.3	12.1
5669	65	full	2.1	4.3	14.9	48.2	29.1	1.4	69.5	13.3	16.0
5699	65	full	2.3	5.3	11.5	45.0	30.5	5.3	64.1	12.6	14.4
5706	65	full	1.7	6.1	11.3	40.9	38.3	1.7	60.0	11.4	12.6
5996	68	5	1.7	6.8	18.8	53.0	18.8	0.9	80.3	10.8	14.1
5980	67	full	3.2	6.5	14.5	31.5	32.3	12.1	55.6	10.3	10.9
5989	65	5	1.0	8.3	19.8	47.9	19.8	3.1	77.1	10.2	13.0
5998	63	full	4.5	2.7	6.4	42.7	41.8	1.8	56.4	10.5	11.1
6104	67	5	2.1	14.9	36.2	26.6	19.1	1.1	79.8	12.5	16.2
6126	66	full	1.6	4.1	8.9	35.8	43.1	6.5	50.4	12.3	12.3
6134	69	full	5.4	4.7	8.5	18.6	39.5	23.3	37.2	12.3	10.7
6137	68	full	4.2	4.2	5.4	18.7	54.8	12.7	32.5	15.5	12.9
6152	65	full	1.9	6.7	10.6	26.0	35.6	19.2	45.2	10.5	10.0
6165	67	full	5.0	11.9	19.8	46.5	15.8	1.0	83.2	8.9	11.8
6169	67	full	4.0	6.1	15.2	37.4	30.3	7.1	62.6	9.4	10.6
6170	68	full	3.6	7.1	12.5	24.1	41.1	11.6	47.3	10.3	10.0
6176	68	5	8.3	15.6	20.8	31.3	22.9	1.0	76.0	9.1	11.4
6183	65	full	1.8	6.1	14.9	30.7	39.5	7.0	53.5	10.0	10.5
6185	65	full	0.9	2.6	8.5	24.8	46.2	17.1	36.8	11.4	9.9
6189	65	full	2.9	5.9	15.7	29.4	34.3	11.8	53.9	10.1	10.5
6193	68	full	6.3	7.9	11.1	31.7	36.5	6.3	57.1	11.4	12.2
6195	68	5	7.7	9.9	20.9	48.4	13.2	0.0	86.8	8.5	11.7
6204	68	full	1.7	3.4	8.5	49.6	28.2	8.5	63.2	10.5	11.8
6207	65	full	1.0	3.9	6.9	26.5	47.1	14.7	38.2	10.0	8.8
6212	65	full	1.2	5.9	16.5	40.0	28.2	8.2	63.5	9.1	10.4
6226	68	full	3.8	5.7	13.3	43.8	30.5	2.9	66.7	9.4	11.0
LSD@5%										2.5	2.8

<sup>z</sup>Mean of 2 replications; subplots of 5' were harvested from single 20' plots in rows 30" apart.

<sup>y</sup>Percent calculated as % of total of 1-6 sieve beans.

<sup>x</sup>Tons/Acre adjusted to 50% 1-4 sieve.

Table 12. Performance of preliminary small sieve green bean lines, May 15 planting, Corvallis, 2003.<sup>2</sup>

Line	Days to Harvest	Est. Sieve Size	Percent Sieve Size <sup>y</sup>						%1-4 sieve	Av tons/acre
			1	2	3	4	5	6		
Minuette	68	4	1.0	4.9	28.4	64.7	1.0	0.0	99.0	9.3
5613	66	3	8.4	32.5	56.6	2.4	0.0	0.0	100.0	7.4
5835	65	4	5.7	17.1	24.8	48.6	3.8	0.0	96.2	9.7
5944	65	3	4.3	37.2	48.9	9.6	0.0	0.0	100.0	8.6
5902	65	3	4.4	26.7	57.8	11.1	0.0	0.0	100.0	8.2
6100	65	4	2.8	10.1	27.5	46.8	12.8	0.0	87.2	10.2
6008	63	4	9.8	14.1	27.2	44.6	4.3	0.0	95.7	8.4
6094	66	4	1.5	6.2	16.2	60.8	14.6	0.8	84.6	12.6
6118	66	3	3.2	13.7	60.0	23.2	0.0	0.0	100.0	9.2
6123	67	4	2.6	5.2	30.2	52.6	9.5	0.0	90.5	11.9
6127	66	4-5	0.8	2.3	11.7	60.9	24.2	0.0	75.8	12.1
6128	66	4	0.9	2.7	11.6	78.6	6.3	0.0	93.8	10.6
6129	67	4	4.9	9.0	16.4	62.3	7.4	0.0	92.6	10.3
6130	66	4	1.8	4.5	11.6	71.4	10.7	0.0	89.3	10.7
6131	63	4	5.4	10.7	31.3	42.0	10.7	0.0	89.3	9.3
6138	67	4-5	1.7	6.0	16.4	48.3	22.4	5.2	72.4	9.7
6140	68	4	0.9	4.7	16.8	76.6	0.9	0.0	99.1	10.0
6141	67	4	0.8	3.3	17.5	75.0	3.3	0.0	96.7	11.1
6142	66	4-5	0.8	5.9	18.5	70.6	4.2	0.0	95.8	10.8
6143	66	4	1.0	4.2	27.1	67.7	0.0	0.0	100.0	8.9
6144	67	4	1.1	4.2	30.5	63.2	1.1	0.0	98.9	8.7
6145	68	4	0.9	3.8	21.7	72.6	0.9	0.0	99.1	9.7
6146	68	4	1.0	2.9	18.6	76.5	1.0	0.0	99.0	9.4
6148	68	4	1.0	4.1	19.6	74.2	1.0	0.0	99.0	9.0
6149	66	3-4	0.9	6.6	38.7	53.8	0.0	0.0	100.0	10.3
6150	68	4	1.7	5.8	14.2	75.8	2.5	0.0	97.5	10.8
6151	68	4	2.7	8.2	13.6	72.7	2.7	0.0	97.3	9.9
6154	67	3	4.1	12.4	63.9	19.6	0.0	0.0	100.0	8.7
6156	65	4	1.9	8.7	18.4	57.3	13.6	0.0	86.4	9.4
6157	65	4	1.7	2.5	12.7	63.6	19.5	0.0	80.5	11.9
6158	65	4-5	2.1	7.4	11.6	53.7	25.3	0.0	74.7	9.0
6162	67	4-5	2.5	5.9	14.3	57.1	20.2	0.0	79.8	11.2
6172	65	4-5	3.0	5.0	12.9	59.4	19.8	0.0	80.2	9.3
6174	66	4	5.1	11.1	19.7	48.7	15.4	0.0	84.6	11.0
6175	67	4-5	8.4	8.4	17.6	42.7	22.9	0.0	77.1	11.4
6178-3	67	4	3.8	5.7	34.9	55.7	0.0	0.0	100.0	9.5
6178-5	67	4	1.0	2.0	16.8	79.2	1.0	0.0	99.0	9.5
6179	66	3	4.5	23.6	61.8	10.1	0.0	0.0	100.0	8.4
6180	67	3-4	3.6	5.5	36.4	53.6	0.9	0.0	99.1	10.1
6182	66	3-4	2.9	13.3	36.2	47.6	0.0	0.0	100.0	10.0
6186	66	4	2.1	10.6	14.9	45.7	24.5	2.1	73.4	9.2
6187	67	4	1.2	8.4	15.7	39.8	31.3	3.6	65.1	8.1
6188	65	3-4	2.2	6.7	41.6	47.2	2.2	0.0	97.8	8.5
6190	61	4	8.5	18.6	25.4	32.2	13.6	1.7	84.7	6.1
6197	66	3-4	1.0	7.0	38.0	52.0	2.0	0.0	98.0	9.8

Table 12. Performance of preliminary small sieve green bean lines, May 15 planting, Corvallis, 2003. (cont.)<sup>z</sup>

Line	Days to Harvest	Est. sieve size	Percent Sieve Size <sup>y</sup>						%1-4 sieve	Av tons/acre
			1	2	3	4	5	6		
6198	66	3-4	1.3	5.1	32.1	60.3	1.3	0.0	98.7	7.4
6199	65	4	2.1	6.3	20.0	56.8	13.7	1.1	85.3	8.9
6211	68	3-4	2.8	12.5	23.6	59.7	1.4	0.0	98.6	6.8
6215	65	4	1.6	5.5	22.8	59.1	11.0	0.0	89.0	12.1
6219	67	4	1.6	3.2	6.5	67.7	21.0	0.0	79.0	6.2
6220	66	2	3.8	78.5	17.7	0.0	0.0	0.0	100.0	7.1
6222	66	3-4	4.5	16.9	41.6	34.8	2.2	0.0	97.8	8.3
6223	68	3-4	2.3	3.4	14.9	75.9	3.4	0.0	96.6	7.8
6224	67	3-4	1.7	4.2	25.8	68.3	0.0	0.0	100.0	10.7
6225	68	4-5	7.1	12.5	19.6	47.3	13.4	0.0	86.6	10.4
6227	67	4-5	2.6	6.0	17.2	47.4	25.9	0.9	73.3	10.8
6228	65	4	1.1	11.4	18.2	50.0	19.3	0.0	80.7	9.0
LSD@5%										2.3

<sup>z</sup>Mean of 2 replications; subplots of 5' were harvested from single 20' plots in rows 30" apart. Shaded entries are the most promising lines.

<sup>y</sup>Percent calculated as % of total of 1-6 sieve beans.

Table 13. Notes on preliminary full sieve green bean lines, May 15 planting, Corvallis, 2003.

Line	Plant Height (cm)	Growth Habit Preliminary <sup>z</sup>	Growth Habit at Harvest <sup>z</sup>	Pod Length (cm)	Pod Straightness <sup>y</sup>	Pod Cross Section <sup>x</sup>	Pod Smoothness <sup>w</sup>	Shiny or dull	Pod Color <sup>v</sup>	Notes <sup>u</sup>
91G	30	3	1	14.0	5	round	5	dull	5	some seed development in 5 & 6 sv
OR54	39	4	3	16.0	3	round to cb	5	dull	6	seedy 6 sv, moderate seed development in 5 sv
5630	28	3	2	16.0	4	round to cb	5	dull	5	seedy 6 sv, 5 sv mixed seed development
5635	33	5	2	14.5	7	round to cb	3	dull	5	seedy 6 sv, 5 sv moderately seedy; straight pods in lower sieve sizes
5669	40	4	4	14.5	5	round	5	dull	5	seedy 6 sv, moderately seedy 5 sv, seed development in 4 sv; segregating for flats
5699	43	4	6	15.0	5	round	5	dull	5	seedy 6 sv, some seed development in 5 sv; typical bush blue lake type
5706	31	4	3	15.0	1	round to cb	5	dull	5	seedy 5 & 6 sv, 4 sv OK
5996	44	6	4	13.5	5	round to cb	8	dull	7	oval off type, shows up mostly in 4 sv or smaller; 6 sv seedy, 5 sv moderately seedy, some pods in 4 sv developing seeds
5980	37	4	2	15.5	3	round	7	dull	7	mixed seed development in 6 sv, 5 sv moderately seedy; pc type but may be mix
5989	48	6	5	13.0	7	round to cb	9	dull	7	5 & 6 sv seedy, 4 sv OK; pc type
5998	38	4	3	13.0	8	round	9	semi shiny	7	some seed development in 5 & 6 sv
6104	47	7	6	13.0	7	round	7	dull	5	seedy 5 & 6 sv, moderately seedy 4 sv
6126	39	6	7	15.0	3	round to cb	9	dull	7	moderate seed development in 6 sv, 5 sv OK
6134	42	6	7	16.0	3	oval to round	3	dull	7	6 sv seedy, 5 sv mixed seed development; should have been harvested 7/24 but missed because of lack of seed development; oval tendency
6137	47	5	5	14.5	5	round	1	shiny	9	seedy 6 sv, mixed seed development in 4 & 5 sv; quite bumpy, might be better if harvested earlier
6152	34	5	4	15.0	5	round	7	dull	7	moderately seedy 6 sv, seed just developing in 5 sv
6165	29	5	3	15.5	5	heart to round	7	dull	7	seedy 6 sv, mixed seed development in 5 sv
6169	40	7	4	15.5	3	round to cb	5	dull	6	5 & 6 sv seedy, seeds developing in 4 sv

Table 13. Notes on preliminary full sieve green bean lines, May 15 planting, Corvallis, 2003 (cont).

Line	Plant Height (cm)	Growth Habit Preliminary <sup>z</sup>	Growth Habit at Harvest <sup>z</sup>	Length (cm)	Straightness <sup>y</sup>	Cross Section <sup>x</sup>	Smoothness <sup>w</sup>	Shiny or dull	Color <sup>v</sup>	Notes <sup>u</sup>
6170	45	6	5	17.0	5	round to cb	8	dull	8	moderate seed dev in 5 & 6 sv; very large podded bean, up to 21 cm.
6176	40	6	4	15.0	3	round	6	dull	6	seedy 6 sv, mixed seed development in 5 sv
6183	51	5	6	13.0	4	round to cb	5	shiny	7	6 sv seedy, mix of seedy and not in 5 sv, some 2 tone in color
6185	37	5	3	13.5	3	round	5	shiny	9	slight seed development in 6 sv, 5 sv OK
6189	33	7	8	15.5	3	round	7	dull	5	moderate seed development in 5 & 6 sv, 4 sv ok
6193	47	7	4	14.0	3	round to cb	3	dull	7	moderate seed development in 5 & 6 sv; strong internal cavitation and long seed cavity that is incompletely filled by the seed, which lead to bumpiness
6195	57	9	8	15.0	5	round to cb	7	dull	6	6 sv seedy, 5 sv moderately seedy, 4 sv beginning; strong color gradient around suture
6204	60	7	8	15.5	5	heart	5	dull	5	very seedy 6 sv, 5 sv becoming seedy; mix with light colored, very straight oval
6207	54	7	7	13.5	5	round	3	dull	5	6 sv seedy, 5 sv developing seed, 4 sv generally not seedy
6212	49	8	7	12.0	7	round to cb	7	dull	4	seedy 6 sv, 5 sv developing seed, 4 sv OK; color variable
6226	49	7	6	15.5	4	round	7	dull	7	seedy 6 sv, moderately seedy 5 sv; seeds long and not obtrusive even when fully developed

<sup>z</sup>Scores based on 1-9 scale with 9 = most upright. Preliminary growth habit readings taken July 17; harvest readings taken day of harvest.

<sup>y</sup>Scores based on a 1-9 scale with 9 straightest

<sup>x</sup>Cross section: cb = crease-back

<sup>w</sup>Scores based on a 1-9 scale with 9 smoothest

<sup>v</sup>Scores based on a 1-9 scale with 9 darkest

<sup>u</sup>Notes: sv = sieve; pc = persistent color

Table 14. Notes on preliminary small sieve green bean lines, May 15 planting, Corvallis, 2003.

Line	Plant Height (cm)	Growth Habit Preliminary <sup>z</sup>	Growth Habit at Harvest <sup>z</sup>	Pod Length (cm)	Pod Straightness <sup>y</sup>	Pod Cross Section <sup>x</sup>	Pod Smoothness <sup>w</sup>	Shiny or dull	Pod Color <sup>v</sup>	Notes <sup>u</sup>
Minuette	41	7	5	11.0	7	round	7	shiny	5	seedy 5 sv, mixed seed development in 3 & 4 sv
5613	38	5	4	10.5	7	heart to round	5	dull	5	seedy 4 sv, 3 sv moderately seedy
5835	31	5	5	12.5	5	heart	7	dull	5	segregating flats; seedy 5 sv, 4 sv developing seed
5944	34	4	3	10.0	7	round	7	dull	5	moderate seed development in 4 sv, 3 sv ok
5902	40	5	5	12.0	8	round	6	shiny	4	moderate seed development in 4 sv
6100	47	4	2	12.0	3	round	7	dull	3	seedy in 5 sv, moderately seedy in 3 & 4 sv
6008	49	5	6	11.5	9	round to heart to slightly oval	9	dull	9	5 sv moderately seedy, 4 sv some seediness; some 2 tone pods; excellent interior color
6094	47	4	5	15.0	5	oval to round	3	dull	4	seedy 6 sv, moderate seed development in 5 sv, 4 sv OK
6118	40	5	4	12.5	7	oval to round	5	dull	3	seedy 4 sv, mixed seed development in 3 sv; oval mix
6123	38	5	6	11.5	5	heart	7	dull	5	5 sv seedy, mixed seed development in 4 sv
6127	50	7	7	12.5	3	round	7	dull	7	5 sv moderately seedy, mixed seed development in 5 sv, 4 sv
6128	49	8	8	14.5	7	heart	7	dull	7	large sv mix; moderately seedy 4 & 5 sv
6129	44	7	6	15.0	5	heart	7	dull	7	seedy 5 sv, seed development beginning in 4 sv
6130	40	7	7	14.0	3	heart to round	5	dull	6	5 sv very seedy, 4 sv moderately seedy; concentrated set
6131	44	5	7	15.0	7	round	9	dull	7	seedy in 5 sv, 4 sv OK; long slender pods; very attractive
6138	42	6	4	14.5	3	round	3	dull	5	very seedy 6 sv, 5 sv shows mixed seediness, seed developing in 4 sv
6140	38	7	6	10.0	5	heart	9	shiny	5	seedy 5 sv, mixed seed development in 4 sv
6141	43	7	6	11.0	7	round	6	shiny	5	seedy 5 sv, mixed seed development in 4 sv; very concentrated set
6142	39	7	6	10.5	8	heart to round	9	shiny	7	moderate seed development in 5 sv, seed development beginning in 4 sv, may mature with more 5 sv
6143	41	7	7	9.0	8	round	7	dull	6	seedy 5 sv, seed developing in 4 sv, 3 sv ok

Table 14. Notes on preliminary small sieve green bean lines, May 15 planting, Corvallis, 2003 (cont).

Line	Plant Height (cm)	Growth Habit Preliminary <sup>z</sup>	Growth Habit at Harvest <sup>z</sup>	Pod Length (cm)	Pod Straightness <sup>y</sup>	Pod Cross Section <sup>x</sup>	Pod Smoothness <sup>w</sup>	Shiny or dull	Pod Color <sup>v</sup>	Notes <sup>u</sup>
6144	52	7	7	9.5	5	round	7	shiny	7	seedy 5 sv, seed developing in 4 sv, mixed in 3 sv
6145	50	8	6	11.5	7	round	7	shiny	7	seedy 5 sv, seed developing in 4 sv
6146	39	5	3	9.5	5	heart to round	7	shiny	7	mixed seed development in 5 sv, seed just beginning to develop in 4sv
6148	50	7	7	10.0	7	round	5	shiny	5	seedy in 5 sv, mixed seed development in 4 sv
6149	51	7	7	10.0	7	round	5	shiny	9	moderately seedy 4 sv, 3 sv looks good
6150	34	6	4	11.0	7	round	7	shiny	7	seedy 5 sv, 4 sv mixed seed development
6151	37	5	4	14.0	2	round	7	dull	5	moderately seedy 5 sv, seed developing in 4 sv
6154	50	7	8	11.0	5	heart to round to cb	7	shiny	7	seedy 4 sv, moderately seedy 3 sv
6156	45	5	6	10.0	9	cb	7	dull	7	moderate seed development in 5 sv, 4 sv OK
6157	36	6	7	13.0	5	round	5	dull	5	mixed seediness in 5 sv, light to moderate seed development in 4 sv
6158	38	6	6	13.0	4	round	3	shiny	7	5 sv moderately seedy, 4 sv OK; tends to have blanks
6162	44	5	4	11.5	9	round	7	shiny	7	5 sv moderately seedy, mixed seed development in 4 sv
6172	41	6	6	15.0	3	heart	7	shiny	9	seedy 5sv, moderate seed development in 4 sv; dark green interior
6174	47	6	6	15.0	5	round	5	dull	7	seedy 5 & 6 sv, moderately seedy 4 sv
6175	49	7	7	13.5	6	round	7	dull	7	seedy 5 & 6 sv, mixed seed development in 4 sv
6178-3	42	7	7	10.0	7	round	7	shiny	5	seedy 5 sv, 4 sv beginning to develop seeds
6178-5	46	5	7	9.5	7	round	5	shiny	5	5 sv seedy, seed developing in 4 sv; 1 pod with string
6179	41	8	8	12.0	7	oval to heart	5	dull	7	moderate seed development in 4 sv, 3 sv OK
6180	47	9	8	12.5	7	round	5	shiny	6	mixed seed development in 4 sv, 3 sv ok
6182	51	6	6	11.5	7	heart to round	9	dull	7	moderately seedy 4 sv, 3 sv OK; may be a long/short pod mix
6186	55	9	9	10.0	7	round	5	dull	6	seedy 4 & 5 sv, mixed seeds in 3 sv; flowery odor & flavor
6187	54	7	9	9.0	7	round	4	shiny	6	5 & 6 sv seedy, 4 sv fairly seedy; short pod; nice reverse curve



Table 14. Notes on preliminary small sieve green bean lines, May 15 planting, Corvallis, 2003 (cont).

Line	Plant Height (cm)	Growth Habit Preliminary <sup>z</sup>	Growth Habit at Harvest <sup>z</sup>	Pod Length (cm)	Pod Straightness <sup>y</sup>	Pod Cross Section <sup>x</sup>	Pod Smoothness <sup>w</sup>	Shiny or dull	Pod Color <sup>v</sup>	Notes <sup>u</sup>
6188	50	6	7	13.0	7	heart to round	7	dull	6	seedy 5 sv, 4 sv developing seeds; 2-tone pod color
6190	42	6	7	11.0	7	round to cb	7	dull	7	seed developing in 6 sv; segregating for pod length
6197	45	5	4	13.0	5	round	7	shiny	7	seedy 4 & 5 sv, mixed seed development in 3 sv; frequent strings
6198	55	7	6	9.5	8	heart to round	7	dull	9	5 sv very seedy, 4 sv fairly seedy
6199	60	8	8	9.5	8	heart	7	dull	4	5 sv seedy, 4 sv OK
6211	48	6	7	11.5	7	round	4	dull	5	mixed seed development in 4 & 5 sv
6215	58	7	8	12.5	3	round	5	shiny	5	5 sv seedy, 4 sv moderately seedy, 3 sv OK
6219	52	5	7	10.5	9	heart	7	shiny	9++	moderately seedy 5 sv, 4 sv ok; very dark green pods
6220	47	7	9	9.5	9	round	5	dull	7	3 & 4 sv seedy, 2 sv OK
6222	55	8	9	11.0	5	heart	3	shiny	9	5 sv seedy, 4 sv OK; color variable--lots of two tone
6223	50	8	9	9.5	7	round	9	shiny	5	5 sv seedy, 4 sv mixed seed development
6224	49	6	6	10.5	9	round	7	shiny	5	5 sv mixed seed development, 4 sv moderately seedy,
6225	33	4	2	13.0	.5	heart	4	dull	5	moderately seedy 5 & 6 sv, seeds developing in 4 sv
6227	42	5	5	14.0	5	round	7	dull	7	6 sv seedy, 5 sv mixed, 4 sv moderately seedy; may be segregating for pod length--some very long
6228	47	7	9	9.5	9	round	7	dull	6	mixed seed development in 5 sv, 4 sv OK

<sup>z</sup>Scores based on 1-9 scale with 9 = most upright. Preliminary growth habit readings taken July 17; harvest readings taken day of harvest.

<sup>y</sup>Scores based on a 1-9 scale with 9 straightest

<sup>x</sup>Cross section: cb = crease-back

<sup>w</sup>Scores based on a 1-9 scale with 9 smoothest

<sup>v</sup>Scores based on a 1-9 scale with 9 darkest

<sup>u</sup>Notes: sv = sieve; pc = persistent color

Table 15. Performance of preliminary full sieve green bean lines, June 24 planting, Corvallis, 2003.<sup>z</sup>

Line	Days to Harvest	Est. Sieve Size	Percent Sieve Size <sup>y</sup>						%1-4 Sieve	Av Tons/Acre	Av Adj Tons/Acre <sup>x</sup>
			1	2	3	4	5	6			
91G	62	full	4.7	9.4	14.2	32.3	33.1	6.3	60.6	11.4	12.7
OR54	65	full	4.1	5.2	9.8	26.4	43.0	11.4	45.6	17.4	16.6
5630	63	full	2.1	5.5	11.7	46.2	32.4	2.1	65.5	13.2	15.4
5635	64	full	4.2	8.5	13.9	35.2	32.1	6.1	61.8	15.0	16.8
5669	62	full	4.4	9.6	17.6	40.4	25.7	2.2	72.1	12.3	15.0
5699	62	full	6.8	10.3	17.1	39.3	22.2	4.3	73.5	10.3	12.7
5706	65	full	7.9	11.5	15.8	27.3	30.9	6.5	62.6	12.0	13.4
5996	64	5	3.4	9.3	16.9	39.8	27.1	3.4	69.5	10.5	12.6
5980	64	full	6.7	8.2	14.2	32.8	32.8	5.2	61.9	11.7	13.1
5989	59	5	5.8	12.4	19.0	38.0	22.6	2.2	75.2	11.9	14.8
5998	59	full	4.5	5.4	11.6	45.5	31.3	1.8	67.0	10.2	11.9
6104	63	5	8.2	11.2	22.4	40.3	16.4	1.5	82.1	12.2	16.1
6126	63	full	5.6	7.4	14.2	29.6	32.1	11.1	56.8	15.0	16.0
6134	64	full	6.7	4.5	17.2	35.8	29.9	6.0	64.2	12.8	14.6
6137	64	full	6.0	9.4	17.9	35.9	26.5	4.3	69.2	12.0	14.3
6152	62	full	6.6	8.4	15.1	32.5	29.5	7.8	62.7	14.9	16.8
6165	66	full	7.7	12.8	21.4	36.8	17.1	4.3	78.6	10.2	12.9
6169	65	full	6.5	10.9	16.7	29.7	27.5	8.7	63.8	12.2	13.9
6170	66	full	7.8	11.7	17.2	26.6	27.3	9.4	63.3	11.1	12.5
6176	66	5	10.7	21.4	26.8	23.2	15.2	2.7	82.1	9.8	12.9
6183	62	full	6.4	11.9	19.3	36.7	22.0	3.7	74.3	9.8	12.1
6185	62	full	4.8	9.6	16.0	33.6	28.0	8.0	64.0	10.9	12.4
6189	63	full	6.4	10.3	14.7	30.8	30.1	7.7	62.2	14.1	15.8
6193	66	full	6.3	10.1	13.2	37.1	28.3	5.0	66.7	13.8	16.1
6195	66	5	14.8	18.5	24.1	35.2	7.4	0.0	92.6	10.0	14.2
6204	63	full	7.1	12.8	22.0	39.0	19.1	0.0	80.9	12.9	16.9
6207	62	full	3.3	5.3	8.6	23.8	43.7	15.2	41.1	13.3	12.1
6212	64	full	4.9	8.3	14.6	38.2	25.7	8.3	66.0	12.7	14.7
LSD@5%										NS	NS

<sup>z</sup>Mean of 2 replications; subplots of 5' were harvested from single 20' plots in rows 30" apart.

<sup>y</sup>Percent calculated as % of total of 1-6 sieve beans.

<sup>x</sup>Tons/Acre adjusted to 50% 1-4 sieve.

Table 16. Performance of preliminary small sieve green bean lines, June 24 planting, Corvallis, 2003.<sup>7</sup>

Line	Days to Harvest	Est. Sieve Size	Percent Sieve Size <sup>y</sup>						%1-4 sieve	Av tons/acre
			1	2	3	4	5	6		
Minuette	65	4	5.8	11.5	31.7	48.1	2.9	0.0	97.1	9.7
5613	65	3	12.0	28.9	47.0	12.0	0.0	0.0	100.0	7.4
5835	62	4	7.6	15.2	32.4	41.0	3.8	0.0	96.2	9.4
5944	62	3	13.4	41.5	40.2	4.9	0.0	0.0	100.0	7.6
5902	62	3	10.0	28.9	45.6	15.6	0.0	0.0	100.0	8.2
6100	64	4	6.8	17.5	45.6	29.1	1.0	0.0	99.0	9.2
6008	59	4	5.8	11.5	26.0	37.5	18.3	1.0	80.8	9.6
6094	62	4	6.6	8.6	15.2	45.0	21.9	2.6	75.5	14.0
6118	64	3	7.1	15.3	51.0	26.5	0.0	0.0	100.0	8.6
6123	64	4	9.0	15.0	21.8	39.1	15.0	0.0	85.0	12.6
6127	64	4-5	2.9	7.4	23.5	60.3	5.9	0.0	94.1	12.6
6128	64	4	5.3	6.9	16.0	58.8	13.0	0.0	87.0	11.7
6129	64	4	6.1	11.3	26.1	48.7	7.8	0.0	92.2	10.6
6130	63	4	5.9	10.2	17.8	51.7	14.4	0.0	85.6	10.5
6131	62	4	6.0	11.1	25.6	47.0	10.3	0.0	89.7	10.4
6138	63	4-5	10.9	13.9	19.8	33.7	18.8	3.0	78.2	8.9
6140	65	4	3.5	9.2	22.5	58.5	6.3	0.0	93.7	12.9
6141	63	4	3.6	13.5	35.1	44.1	3.6	0.0	96.4	9.9
6142	64	4-5	2.2	7.2	20.3	60.1	10.1	0.0	89.9	12.6
6143	63	4	3.3	12.4	34.7	43.8	5.8	0.0	94.2	11.1
6144	64	4	4.7	9.4	28.3	53.5	3.9	0.0	96.1	11.6
6145	64	4	2.2	11.1	32.6	50.4	3.7	0.0	96.3	12.1
6146	64	4	4.5	9.8	28.6	53.6	3.6	0.0	96.4	10.3
6148	65	4	2.3	9.2	27.7	54.6	6.2	0.0	93.8	11.5
6149	64	3-4	2.9	8.8	31.4	54.7	2.2	0.0	97.8	13.0
6150	64	4	2.7	6.8	22.4	57.8	10.2	0.0	89.8	12.8
6151	66	4	6.7	8.4	16.0	58.0	10.9	0.0	89.1	10.4
6154	64	3	2.8	12.8	53.2	31.2	0.0	0.0	100.0	12.7
6156	62	4	5.1	9.4	14.5	37.0	29.7	4.3	65.9	12.2
6157	63	4	3.5	5.6	14.8	50.7	24.6	0.7	74.6	12.7
6158	62	4-5	8.7	15.2	25.0	40.2	9.8	1.1	89.1	8.6
6162	65	4-5	4.5	7.5	13.5	39.8	32.3	2.3	65.4	11.0
6172	62	4-5	3.6	11.7	19.7	42.3	21.2	1.5	77.4	12.0
6174	64	4	9.9	11.8	18.4	36.8	21.1	2.0	77.0	13.5
6175	64	4-5	6.1	10.7	16.8	39.7	23.7	3.1	73.3	11.7
6178-3	64	4	5.7	12.3	36.1	42.6	3.3	0.0	96.7	10.9
6178-5	63	4	6.6	18.7	39.6	34.1	1.1	0.0	98.9	8.2
6179	66	3	11.3	18.9	39.6	30.2	0.0	0.0	100.0	9.4
6180	64	3-4	4.7	10.1	30.4	52.7	2.0	0.0	98.0	13.2
6182	62	3-4	6.5	22.4	35.5	34.6	0.9	0.0	99.1	9.7
6186	62	4	5.4	10.7	20.5	41.1	19.6	2.7	77.7	10.4
6187	62	4	4.6	3.4	19.5	37.9	28.7	5.7	65.5	9.0
6188	62	3-4	7.6	15.2	35.2	38.1	3.8	0.0	96.2	9.8
6190	59	4	7.4	12.0	19.4	27.8	24.1	9.3	66.7	9.5
6197	62	3-4	5.9	11.8	40.3	39.5	2.5	0.0	97.5	10.8

Table 16. Performance of preliminary small sieve green bean lines, June 24 planting, Corvallis, 2003 (cont).<sup>z</sup>

Line	Days to Harvest	Est. Sieve Size	Percent Sieve Size <sup>y</sup>						- 6	%1-4 sieve	Av tons/acre
			1	2	3	4	5	6			
6198	64	3-4	5.5	15.4	36.3	40.7	2.2	0.0	97.8	8.1	
6199	62	4	6.0	12.0	17.1	46.2	18.8	0.0	81.2	10.7	
6211	66	3-4	11.1	20.0	35.6	32.2	1.1	0.0	98.9	8.1	
6215	62	4	5.5	12.7	28.2	42.7	10.9	0.0	89.1	9.9	
6219	63	4	6.7	13.3	20.0	48.0	12.0	0.0	88.0	7.2	
6220	62	2	15.9	56.1	24.4	3.7	0.0	0.0	100.0	7.5	
6222	64	3-4	8.7	24.0	48.1	19.2	0.0	0.0	100.0	9.5	
6223	65	3-4	4.5	13.5	37.1	41.6	3.4	0.0	96.6	8.4	
6224	66	3-4	1.3	5.8	17.3	64.7	10.9	0.0	89.1	13.7	
6225	66	4-5	7.8	12.1	23.3	30.2	19.0	7.8	73.3	9.3	
6228	62	4	5.6	10.5	16.9	39.5	24.2	3.2	72.6	11.3	
LSD@5%										3.4	

<sup>z</sup>Mean of 2 replications; subplots of 5' were harvested from single 20' plots in rows 30" apart.

<sup>y</sup>Percent calculated as % of total of 1-6 sieve beans.

<sup>y</sup>Percent calculated as % of total of 1-6 sieve beans.

Table 17. Notes on preliminary full sieve green bean lines, June 24 planting, Corvallis, 2003<sup>2</sup>

Line	Growth Habit <sup>y</sup>	Pod Concentration <sup>x</sup>	Length (cm)	Straightness <sup>w</sup>	Cross Section <sup>v</sup>	Smoothness <sup>u</sup>	Color <sup>t</sup>	Flavor <sup>s</sup>				Notes <sup>r</sup>
								Sweetness <sup>q</sup>	Astringency <sup>r</sup>	Beaniness <sup>s</sup>	Perfume	
91G	5	1	16.5	3	heart to round	5	5	5	7	7	1	some ovalness in this trial (not oval rogues) and some blanking; seedy 6 sv, moderately seedy in 5 sv, 4 sv ok
OR54	5	3	16.5	5	round	4	5	7	7	5	1	quintessential BBL; some blonding; very seedy 6sv, seedy 5 sv, and moderately seedy 4 sv.
5630	3	1	16.0	5	round	7	5	5	7	7	1	contains oval off type; much blonding; long BBL type; seedy 6 sv, moderately seedy 5 sv, seed development beginning in 4 sv.
5635	9	3	15.0	5	round	5	5	7	5	7	1	many 2 tone pods; very seedy 6 sv, seedy 5 sv, moderately seedy 4 sv
5669	5	5	14.0	5	round	5	5	9	7	7	1	seedy 5 & 6 sv, moderate seed development in 4 sv; a few oval pods
5699	7	1	15.0	5	round	7	5	7	7	7	1	typical BBL with pods similar to 5669; seedy 6 sv, 5 sv moderately seedy and seed development beginning in 4 sv
5706	5	1	17.0	5	round	5	5	5	7	5	1	very long podded BBL; battered in grader; very seedy 6 sv, seedy 5 sv, mixed seed development in 4 sv
5996	3	3	14.0	6	heart	7	7	3	9	7	1	very strong bitter flavor; slightly oval in this trial; pc type with very uniform pod color; seedy 6 sv, moderately seedy 5 sv, seed development beginning in 4 sv
5980	7	7	15.0	4	heart to round	5	9	3	9	5	1	very large sv; extreme green; dull; only moderate seed development in 5 & 6 sv; 4 sv OK; strong bitter flavor
5989	3	3	15.0	7	round	9	7	7	7	5	1	seedy 6 sv, moderate seed development in 5 sv, seeds beginning in 4 sv
5998	3	3	12.0	7	oval to heart	7	7	7	7	7	1	seedy 6 sv, mixed seed development in 4 & 5 sv; oval tendency in this trial; leggy, somewhat floppy plant but better than 91G; pc type
6104	3	1	14.0	5	heart	7	4	5	5	5	1	oval tendency with moderate reverse curve; seedy 5 & 6 sv, moderate seed development in 4 sv
6126	7	5	16.0	5	round	7	7	5	7	7	1	very nice BBL; dark green pod; good flavor; moderate battering in grader; seed beginning in 5 & 6 sv, 4 sv ok

Table 17. Notes on preliminary full sieve green bean lines, June 24 planting, Corvallis, 2003<sup>2</sup> (cont.)

Line	Growth Habit <sup>y</sup>	Concentration <sup>x</sup>	Length (cm)	Straightness <sup>w</sup>	Cross Section <sup>v</sup>	Smoothness <sup>u</sup>	Color <sup>t</sup>	Flavor <sup>s</sup>			Notes <sup>r</sup>	
								Sweetness <sup>q</sup>	Astringency <sup>r</sup>	Beaniness <sup>s</sup>		Perfume
6134	9	3	15.0	6	heart to round	5	7	5	9	7	1	BBL pod type; variable in color from extreme green to "normal" BBL color; some blonding; long slender pod with oval tendency; moderate seed development in 5 & 6 sv, 4 sv beginning
6137	3	3	16.0	5	round	7	9	6	7	7	1	extreme green, shiny; either some blonding or some light colored off types; moderate seed development in 5 & 6 sv, 4 sv beginning
6152	3	7	14.4	5	oval to heart	7	7	5	9	5	1	sharp bitter edge to flavor; dark green BBL type; variable for pod cross section; moderately seedy 6 sv, 4 & 5 sv ok; much battering in grader
6165	7	3	15.0	5	round	5	6	5	8	7	1	moderate seed development in 4 & 5 sv, beginning in 3 sv; line might go full sieve if not too indeterminate; very dark green interior; strong reverse curve; large heavy, floppy plant; BBL pod
6169	7	3	17.0	3	round	7	6	5	7	7	1	long podded dark green BBL type; moderate seed development in 5 & 6 sv, beginning in 4 sv
6170	9	7	16.0	5	heart	5	7	5	7	5	1	extremely long pods with some reverse curve; dark green BBL type; moderate seed development in 6 sv, 4 & 5 sv ok
6176	9	3	16.0	4	heart	5	6	5	7	7	1	long slender BBL pod; moderate seed development in 5 & 6 sv, 4 sv beginning
6183	3	7	14.0	5	round	7	7	7	7	7	1	strong reverse curve; moderately shiny dark green pod; moderately seedy 6 sv, seed development beginning in 5 sv, 4 sv ok
6185	3	4	15.0	5	round	9	9	5	5	5	1	shiny extreme green pods; very smooth, some blanks in 6 sv; moderately seedy 5 & 6 sv, 4 sv ok
6189	7	9	14.0	7	round	5	6	5	8	5	1	long BBL pods; fair amount of battering in grader, many crushed ends in 5 & 6 sv; moderately seedy 5 & 6 sv, 4 sv ok
6193	9	7	15.5	6	cb	7	8	7	5	5	1	long slender dark green BBL pod; strong internal cavitation in 6 sv; moderately seedy 5 & 6 sv, 4 sv OK
6195	9	3	16.0	5	heart	7	7	5	7	7	1	long slender dark green BBL type pod; moderately seedy 5 sv, seed beginning in 4 sv, 3 sv ok; a number of bumpy podded rogues in this trial

Table 17. Notes on preliminary full sieve green bean lines, June 24 planting, Corvallis, 2003<sup>z</sup> (cont.)

Line	Growth Habit <sup>y</sup>	Concentration <sup>x</sup>	Length (cm)	Straightness <sup>w</sup>	Cross Section <sup>v</sup>	Smoothness <sup>u</sup>	Color <sup>t</sup>	Flavor <sup>s</sup>			Notes <sup>r</sup>	
								Sweetness	Astringency	Beaniness		Perfume
6204	5	7	15.0	5	round	7	7	5	5	5	1	strong reverse curve; long slender BBL pod; moderate seed development in 5 & 6 sv, 4 sv ok; very wiry stems and strong root system--somewhat hard picking
6207	1	5	14.0	5	round	5	5	6	7	7	1	BBL type pod; some 2 tone and blonding; moderately seedy 6 sv, little seed development in 4 & 5 sv; very large podded
6212	9	3	14.0	7	round	7	6	3	9	3	1	fairly long pods; moderate seed development in 6 sv, seed development beginning in 5 sv, 4 sv ok; very astringent

<sup>z</sup>There was very heavy, lush growth in this trial, with white mold beginning as of 8/20. Very few lines with erect habit in Trial 2 show good habit in this trial. Some traditional BBL types are extremely matted with chlorotic leaves and blond pods at the bottom of the mat, but little white mold in this yet.

<sup>y</sup>Scores based on 1-9 scale with 1 = flat and 9 = upright

<sup>x</sup>Scores based on 1-9 scale with 1 = concentrated and 9 = indeterminate

<sup>w</sup>Scores based on a 1-9 scale with 9 straightest

<sup>v</sup>Cross section: cb = crease-back

<sup>u</sup>Scores based on a 1-9 scale with 9 smoothest

<sup>t</sup>Scores based on a 1-9 scale with 9 darkest

<sup>s</sup>Scores based on a 1-9 scale with 9 strongest

<sup>r</sup>Notes: sv = sieve; pc = persistent color, BBL = bush blue lake

Table 18. Notes on preliminary small sieve green bean lines, June 24 planting, Corvallis, 2003<sup>2</sup>

Line	Growth Habit <sup>y</sup>	Concentration <sup>x</sup>	Length (cm)	Straightness <sup>w</sup>	Cross Section <sup>v</sup>	Smoothness <sup>u</sup>	Color <sup>t</sup>	Flavor <sup>s</sup>			Notes <sup>r</sup>
								Sweetness	Astringency	Beaniness	
Minuette	9	7	11.0	6	round	6	5	7	3	3	shiny, fairly short, yellow-green pods; moderate seed development in 5 sv, no seed development in 3 & 4 sv
5613	6	7	13.0	7	heart	7	4	5	7	3	moderately seedy 4 sv, mixed seed development in 3 sv, 2 sv ok
5835	9	3	14.5	7	oval	7	5	7	7	1	strongly oval with flat mix in this trial; seedy in 5 sv, moderately seedy 4 sv, mixed seed development in 3 sv
5944	7	5	12.5	7	oval	9	5	7	7	5	seedy 4 sv, 2 & 3 sv ok; very indeterminate in this trial and showing more oval tendency
5902	5	3	12.5	5	heart	3	5	7	7	1	round seed which contributes to bumpy appearance in young pods; moderately seedy 4 sv, 2 & 3 sv ok
6100	9	3	14.0	9	round	7	4	7	7	1	moderately seedy 4 sv, 3 sv OK
6008	3	5	11.5	9	oval to heart	9	9	5	7	1	seedy 6 sv, moderately seedy 5 sv, seed development beginning in 4 sv; very straight smooth bean, but oval; pc type
6118	7	5	15.0	7	flat to oval	5	1	7	5	1	very long slender 3 sv with strong oval tendency; appears to have a flat mix as well; color is too light; moderate seed in 4 sv, 2 & 3 sv ok
6123	9	7	12.0	7	oval to heart	7	3	5	3	3	mod seed development in 5 sv, seed development beginning in 4 sv, 3 sv ok; pod color too light; oval tendency
6127	7	5	12.0	7	round	7	6	7	7	1	very nice looking pods for length, color, straightness and smoothness; moderately seedy 5 sv, 4 sv beginning to develop seed and beginning to look bumpy, 3 sv ok
6128	5	9	14.0	7	round	7	7	4	6	1	long slender, straight, dark green BBL pods; fairly pronounced curve indicative of high fiber; moderately seedy 5 sv, 4 sv beginning, 3 sv ok
6129	5	3	15.0	5	heart	6	6	5	7	1	long slender BBL pods; moderate seed development in 5 sv, mixed in 4 sv, 3 sv ok
6130	5	7	16.5	5	heart	5	5	5	7	1	long slender smooth pod with significant blonding; moderate seed development in 5 & 6 sv, beginning in 4 sv



Table 18. Notes on preliminary small sieve green bean lines, June 24 planting, Corvallis, 2003 (cont.)<sup>2</sup>

Line	Growth Habit <sup>y</sup>	Concentration <sup>x</sup>	Length (cm)	Straightness <sup>w</sup>	Cross Section <sup>v</sup>	Smoothness <sup>u</sup>	Color <sup>t</sup>	Flavor <sup>s</sup>			Notes <sup>r</sup>
								Sweetness	Astringency	Perfume	
6131	3	7	16.0	7	heart to round	7	6	5	5	1	fairly bland flavor; variable pod color from shading; long slender bean; seedy 5 sv, mixed seed development in 4 sv, 3 sv ok
6138	3	7	15.0	5	round	5	6	5	7	1	reverse curve; slender BBL pod; seedy 6 sv, moderately seedy 4 & 5 sv
6140	7	3	11.5	7	round	9	5	5	9	3	Minuette pod type; moderate seed development in 5 sv, mixed in 4 sv, 3 sv ok
6141	5	7	11.5	9	round	7	5	7	7	1	round seeded; low yielding; moderate seed development in 5 sv, 3 & 4 sv ok
6142	7	7	11.5	7	heart	6	7	5	5	1	round seed; Minuette type pod; seedy 5 sv, 4 sv moderately seedy, 3 sv ok
6143	7	5	10.5	7	round	5	5	5	7	5	Minuette type pod but getting bumpy before seed develops; moderately seedy 5 sv, 3 & 4 sv ok; some blonding
6144	9	5	12.5	7	oval to heart	5	6	5	8	1	shiny Minuette type pod; moderately seedy 5 sv, 3 & 4 sv ok
6145	7	7	10.5	8	round	7	6	5	7	3	shiny Minuette pod type; moderately seedy 4 & 5 sv, 3 sv ok
6146	7	3	11.0	8	round	3	5	5	7	1	shiny Minuette pod type; significant blonding; bumpy; moderate seed development in 5 sv, 3 & 4 sv ok
6148	9	5	11.0	7	round	7	6	5	7	3	slightly earlier and darker podded Minuette type; some blonding; moderately seedy 5 sv, seed beginning in 4 sv, 3 sv ok
6149	9	5	11.0	7	round	5	4	5	7	9	shiny podded Minuette type; bumpy with round seed; moderately seedy 5 sv, 4 sv beginning to develop seed, 3 sv ok
6150	7	7	12.5	9	round	5	6	5	5	1	Minuette pod type; shiny; bumpy with round seed; moderately seedy 4 & 5 sv, 3 sv beginning to develop seed
6151	7	3	15.0	7	heart	7	4	7	5	1	long slender pods; moderate seed development in 4 & 5 sv, 3 sv ok; 5 sv showing internal cavitation
6154	9	5	12.0	6	round	7	5	5	7	3	long 3 sv similar to 5613; bumpy in 4 sv; seedy 4 sv, seed development beginning in 3 sv, 2 sv ok

Table 18. Notes on preliminary small sieve green bean lines, June 24 planting, Corvallis, 2003 (cont.)<sup>2</sup>

Line	Growth Habit <sup>x</sup>	Concentration <sup>x</sup>	Length (cm)	Straightness <sup>w</sup>	Cross Section <sup>y</sup>	Smoothness <sup>u</sup>	Color <sup>t</sup>	Flavor <sup>s</sup>				Notes <sup>r</sup>
								Sweetness	Astringency	Beaniness	Perfume	
6156	5	5	10.5	5	heart to round	7	7	7	7	7	1	strong reverse curve; crease-back in 6 sv; round seed; some battering in grader; moderately seedy 5 & 6 sv, mixed in 4 sv; classified as a 4 sv previously, but appears to be more of a short podded full sieve
6157	3	7	15.5	5	round	7	6	7	5	3	1	very long slender pods; some blanding from shading; seedy 6 sv, moderately seedy 5 sv, mixed in 4 sv
6158	5	5	14.0	7	round	7	7	3	5	5	1	moderate reverse curve, 5 & 6 sv have some blanks and a junky appearance; 5 & 6 sv moderately seedy, 3 & 4 sv ok
6162	3	5	13.5	5	round	9	7	7	5	7	1	fairly long, dark green, dull pods with reverse curve; looks like a 60-70% 1-4 sv bean; seedy 5 & 6 sv, moderate development in 4 sv
6172	3	5	15.5	7	heart	6	9	5	7	7	1	moderately seedy 5 & 6 sv, 4 sv ok; dull extreme green; some color variation in pods
6174	7	7	15.0	5	round	5	7	7	7	7	1	long slender dark green BBL type with very nice pods; very good interior color; mixed seed development in 6 sv, moderately seedy in 4 & 5 sv, 3 sv ok; may be close to a full sv line
6175	7	7	14.5	6	round	7	7	5	6	8	1	long slender dark green BBL type; some blanding; seedy 5 sv, moderately seedy 3 & 4 sv
6178-3	9	7	11.5	8	round	7	7	5	7	9	1	pleasant beany flavor; Minulette pod type; shiny; some blanding; moderately seedy 5 sv, 3 & 4 sv ok; better of the two sub lines
6178-5	9	5	11.0	7	round	7	5	5	7	7	5	Minulette type pod; mixed seed development in 4 sv, 3 sv ok
6179	7	9	13.4	7	heart	5	3	5	5	7	1	long, straight, dull, light green pods; seedy 5 sv, moderately seedy 4 sv, 3 sv ok
6180	5	5	14.0	7	heart to round	5	5	5	5	5	3	long and slender; smoother than typical BBL; moderate seed development in 5 sv, mixed in 4 sv, 3 sv ok
6182	5	9	12.5	7	round	9	6	5	7	5	1	mixed seed development in 4 & 5 sv, 3 sv ok; a long slender 3-4 sv, very smooth

Table 18. Notes on preliminary small sieve green bean lines, June 24 planting, Corvallis, 2003 (cont.)<sup>2</sup>

Line	Growth Habit <sup>y</sup>	Concentration <sup>x</sup>	Length (cm)	Straightness <sup>w</sup>	Cross Section <sup>v</sup>	Smoothness <sup>u</sup>	Color <sup>t</sup>	Flavor <sup>s</sup>			Notes <sup>r</sup>	
								Sweetness	Astringency	Beaniness		Perfume
6186	3	5	12.5	7	round to cb	5	5	7	7	7	3	short straight dark green pods; moderately seedy 6 sv, seed development beginning in 5 sv, 4 sv ok
6187	5	7	12.0	7	heart to round	7	7	5	7	5	3	fairly short pod; reverse curve; seedy 6sv, moderately seedy 5 sv, 4 sv ok
6188	3	7	14.0	9	heart	9	6	5	5	7	1	long slender 4 sv; moderate seed development in 5 sv, beginning in 4sv, 3 sv ok
6190	7	7	14.0	6	round	5	7	5	5	6	1	pods heavily battered in grader; strong reverse curve; moderate seed development in 5 & 6 sv, 4 sv ok
6197	9	5	14.0	6	heart to round	5	6	7	7	5	1	some bloning but otherwise a very nice, dark green, slender podded line; seedy 5 sv, seed beginning in 4 sv, 3 sv ok
6198	7	5	12.0	8	heart	6	8	5	9	7	1	somewhat astringent flavor; very dark (extreme) green shiny Minuette type pod; 5 sv seedy and very shiny, moderately seedy 4 sv, and seed development beginning in 3 sv
6199	3	7	11.0	7	oval	9	5	5	7	5	1	Strong reverse curve that decreases with increasing sieve size (4 & 5 sv are mostly straight); strongly oval in this trial; Minuette pod shape with BBL appearance; seedy 5 sv, moderately seedy 4 sv, 3 sv beginning seed dev.
6211	9	7	11.5	9	heart	7	7	5	5	9	1	may have a full sv BBL mix; dark green Minuette type pod; moderately seedy 4 & 5 sv, 3 sv beginning to develop seed
6215	9	7	14.5	5	round	7	6	5	9	7	1	long slender pod; seed development beginning in 5 sv, other sv ok
6219	3	5	10.5	7	round	3	9	5	7	3	7	Minuette pod; extreme dark green (this is the darkest pod in the trial--a good dark-podded parent in a study of pod color inheritance); gets bumpy even when seed are young; moderate seed development in 5 sv, 3 & 4 sv ok; poor plant habit and yield
6220	9	9	10.0	9	round	7	7	5	5	7	1	very petite podded line; dark green; very straight and smooth; seedy 4 sv, no seed development in 2 & 3 sv

Table 18. Notes on preliminary small sieve green bean lines, June 24 planting, Corvallis, 2003 (cont.)<sup>z</sup>

Line	Growth Habit <sup>y</sup>	Concentration <sup>x</sup>	Length (cm)	Straightness <sup>w</sup>	Cross Section <sup>v</sup>	Smoothness <sup>u</sup>	Color <sup>t</sup>	Flavor <sup>s</sup>			Notes <sup>r</sup>	
								Sweetness	Astringency	Beaniness		Perfume
6222	9	9	10.0	9	round	5	4	7	9	7	1	small BBL pod type with long beak; color matches 5 sv of 5669, but probably too light for 3 sv; moderately seedy 4 sv, 3sv beginning; probably could take 2 sv on this line also
6223	9	3	10.5	9	round	7	5	5	5	5	1	shiny podded Minuette type; blanching or light colored pod off-type; seedy 5 sv; seed development beginning in 4, 3 sv OK
6224	9	7	10.5	9	round	7	5	5	7	5	3	shiny podded Minuette type; round seed; moderate seed development in 5 sv, mixed in 4 sv, 3 sv ok
6225	9	1	12.0	6	round	4	5	3	5	5	1	short podded BBL type with consistent reverse curve; seedy 5 & 6 sv, 4 sv moderately seedy
6228	7	7	12.5	8	heart to round	4	7	7	7	5	3	short Minuette type pod that gets bumpy before seeds develop; moderately seedy 6 sv, seed developing in 5 sv, 4 sv ok

<sup>z</sup>There was very heavy, lush growth in this trial, with white mold beginning as of 8/20. Very few lines with erect habit in Trial 2 show good habit in this trial. Some traditional BBL types are extremely matted with chlorotic leaves and blond pods at the bottom of the mat, but little white mold in this yet.

<sup>y</sup>Scores based on 1-9 scale with 1 = flat and 9 = upright

<sup>x</sup>Scores based on 1-9 scale with 1 = concentrated and 9 = indeterminate

<sup>w</sup>Scores based on a 1-9 scale with 9 straightest

<sup>v</sup>Cross section: cb = crease-back

<sup>u</sup>Scores based on a 1-9 scale with 9 smoothest

<sup>t</sup>Scores based on a 1-9 scale with 9 darkest

<sup>s</sup>Scores based on a 1-9 scale with 9 strongest

<sup>r</sup>Notes: sv = sieve; pc = persistent color, BBL = bush blue lake

Table 19. Fusarium root rot infection, Corvallis, 2003

Line	Score <sup>z</sup>			Date <sup>y</sup>	Habit <sup>x</sup>	Fiber <sup>w</sup>	Vigor <sup>v</sup>	Notes
	Rep 1	Rep 2	Average					
B7732-1	2.0	2.0	2.0	12-Sep	3	L	5	
B7732-2	3.5	3.5	3.5	8-Sep			7	
B7732-3	3.0	3.0	3.0	3-Sep	5	S	6	
B7732-4	2.5	3.0	2.8	21-Sep				very late
B7732-5	1.0	2.0	1.5	3-Sep	4	M	6	
B7732-6	3.0		3.0	12-Sep			4	half plot only
B7732-7	1.5	1.0	1.3	30-Aug	3	S	6	
B7732-8	2.0	2.5	2.3	21-Sep			5	
B7732-9	3.5	3.0	3.3	21-Sep			5	very late
B7732-10	2.0	3.0	2.5	3-Sep			4	virus
B7732-11	2.5	3.0	2.8	21-Sep				very late
B7732-12	2.5	3.0	2.8	25-Aug			5	
B7732-13	3.0		3.0	21-Sep			6	few plants only
B7732-14	3.0		3.0	21-Sep			7	few plants only
B7732-15	2.0	2.5	2.3	25-Aug	4	M	5	
B7732-16	3.0	2.5	2.8	27-Aug	4	M	7	
B7732-17	3.0	3.0	3.0	27-Aug	3	L	5	
B7732-18	3.0		3.0	12-Sep			4	half plot only
B7732-19	2.5	2.0	2.3	25-Aug	3	M	6	
B7732-20	3.5	3.0	3.3	21-Sep			5	
B7732-21	3.5	3.5	3.5	21-Sep			6	
B7732-22	1.5		1.5	8-Sep	3	L	5	half plot only
B7732-23	3.5	3.5	3.5	21-Sep			5	very late
B7732-24	3.0	2.0	2.5	30-Aug	4	L	6	
B7732-25	4.0	4.0	4.0	30-Aug			6	
B7732-26	3.0	2.5	2.8	27-Aug	2	H	6	
B7732-27	3.0	3.0	3.0	30-Aug	1	L	6	
B7732-28	3.5	3.5	3.5	3-Sep			6	
B7732-29	4.0	3.5	3.8	3-Sep			6	
B7732-30	3.0	2.5	2.8	30-Aug	2	S	6	
B7732-31	3.0	3.0	3.0	3-Sep	3	L	5	
B7732-32	3.0	3.5	3.3	21-Sep				
B7732-33	2.5	3.0	2.8	12-Sep			3	
B7732-34	3.5		3.5	21-Sep			6	half plot only
B7732-35	3.0	3.0	3.0	12-Sep	4	L	6	
B7732-36	3.5	3.5	3.5	21-Sep			6	
B7732-37	3.0	4.0	3.5	12-Sep			4	
B7732-38	3.0	3.0	3.0	3-Sep	1	H	6	
B7732-39	2.5		2.5	21-Sep				half plot only
B7732-40	3.5	3.5	3.5	8-Sep			6	
B7732-41	2.5	3.0	2.8	12-Sep	3	M	6	
B7732-42	3.0	3.5	3.3	12-Sep	3	M	6	
B7732-43	3.0		3.0	21-Sep			6	half plot only
B7732-44	3.5	4.5	4.0	12-Sep			5	
B7733-1	3.0	3.5	3.3	25-Aug			4	small plants
B7733-2	3.0	3.0	3.0	30-Aug	4	S	5	
B7733-3	2.5		2.5	21-Sep			5	half plot only; very late
B7733-4	3.5		3.5	21-Sep				half plot only

Table 19. Fusarium root rot infection, Corvallis, 2003 (cont.)

Line	Score <sup>z</sup>			Date <sup>y</sup>	Habit <sup>x</sup>	Fiber <sup>w</sup>	Vigor <sup>v</sup>	Notes
	Rep 1	Rep 2	Average					
B7733-5	3.5	3.5	3.5	8-Sep			7	
B7733-6	2.5	3.0	2.8	8-Sep	2	L	7	nice pods
B7733-7	3.5	4.0	3.8	27-Aug			6	
B7733-8	2.5	2.5	2.5	3-Sep	3	M	5	
B7733-9	4.0	3.0	3.5	25-Aug			7	
B7733-10	3.0	3.5	3.3	25-Aug			5	
B7733-11					3	L	6	very early--missed
B7733-12	1.5	2.0	1.8	3-Sep	2	L		
B7733-13	2.5		2.5	21-Sep			5	half plot only
B7733-14	4.0	4.0	4.0	25-Aug			5	
B7733-15	3.0	4.0	3.5	25-Aug			4	small plants
B7733-16	3.5	4.0	3.8	12-Sep			3	
B7733-17	3.0	3.0	3.0	3-Sep	2	S	6	
B7733-18	3.5		3.5	12-Sep			6	half plot only
B7733-19	3.5	3.5	3.5	12-Sep			7	
B7733-20	4.0	3.5	3.8	3-Sep				
B7733-21	2.5	3.5	3.0	3-Sep	2	S	5	
B7733-22	3.0	4.0	3.5	12-Sep			6	
B7733-23	3.0		3.0	21-Sep			6	half plot only; late
B7733-24	3.0		3.0	21-Sep				half plot only; late
B7733-25	2.0	2.5	2.3	3-Sep	3	H	5	
B7733-26	3.0	3.0	3.0	30-Aug	4	M	6	
B7733-27	3.5	4.0	3.8	12-Sep			4	
B7733-28	2.0		2.0	21-Sep			6	half plot only; late
B7733-29	3.0	3.5	3.3	12-Sep	2	M	6	
B7733-30	3.0	3.0	3.0	3-Sep	1	L	6	
B7733-31	1.5		1.5	21-Sep	2	M	7	half plot only
B7733-32	3.0	3.0	3.0	8-Sep	3	M	5	
B7733-33	3.0		3.0	21-Sep			5	half plot only
B7733-34	2.0	3.0	2.5	8-Sep	2	L	6	
B7733-35	3.0	3.5	3.3	8-Sep	4	L	7	
B7733-36	2.5		2.5	21-Sep	2	L	6	half plot only
B7734-1	3.0		3.0	21-Sep			6	half plot only
B7734-2	3.0		3.0	21-Sep			6	half plot only
B7734-3	4.0	4.0	4.0	3-Sep			5	
B7734-4	4.0		4.0	8-Sep			6	4 plants only
B7734-5								no plants
B7734-6	3.0	3.0	3.0	25-Aug	4	H	7	
B7734-7	3.0	3.0	3.0	30-Aug	4	H	7	
B7734-8	3.0	3.0	3.0	12-Sep	5	H	5	
B7734-9	3.0		3.0	21-Sep			6	half plot only
B7734-10	3.5	3.5	3.5	8-Sep			6	
B7734-11	3.5	3.5	3.5	30-Aug			5	
B7734-12	3.0	4.0	3.5	25-Aug			5	
B7734-13	3.0	3.5	3.3	30-Aug	4	M	6	
B7734-14	3.0	3.5	3.3	30-Aug	4	L	6	
B7734-15	3.5		3.5	21-Sep			6	half plot only
B7734-16	4.0	3.0	3.5	3-Sep			6	

Table 19. Fusarium root rot infection, Corvallis, 2003 (cont.)

Line	Score <sup>z</sup>			Date <sup>y</sup>	Habit <sup>x</sup>	Fiber <sup>w</sup>	Vigor <sup>v</sup>	Notes
	Rep 1	Rep 2	Average					
B7734-17	3.5	3.5	3.5	8-Sep			7	
B7734-18	3.5	4.0	3.8	8-Sep			6	
B7734-19	2.5	3.0	2.8	3-Sep	4	M	7	
B7734-20	3.5	4.0	3.8	30-Aug			6	
B7734-21	2.5	3.0	2.8	3-Sep	3	M	6	
B7734-22	3.5	4.0	3.8	27-Aug			6	
B7734-23	2.0	2.5	2.3	30-Aug	5	M	6	
B7734-24	2.5	3.0	2.8	25-Aug	3	M	5	
B7734-25	3.0	3.0	3.0	25-Aug	4	H	5	
B7734-26	3.5	4.0	3.8	25-Aug			5	
B7734-27	3.0	3.0	3.0	3-Sep	5	M	5	
B7734-28	3.5		3.5	21-Sep			6	half plot only
B7734-29	3.0	3.0	3.0	8-Sep	4	H	8	
B7734-30	3.0	4.0	3.5	12-Sep			7	
B7734-31	3.0	2.5	2.8	8-Sep	4	S	7	
B7734-32	2.5	2.5	2.5	3-Sep	1	H	7	
B7734-33	2.5	3.0	2.8	30-Aug	3	H	5	
B7734-34	3.5	3.5	3.5	3-Sep			7	
B7734-35	3.5	3.5	3.5	3-Sep			6	
B7734-36	2.5	3.0	2.8	27-Aug	3	L	6	
B7734-37	3.0	3.0	3.0	30-Aug	3	M	6	
B7734-38	3.0	3.5	3.3	3-Sep	2	M	5	
B7734-39	2.0	2.5	2.3	8-Sep	4	H	5	sparse stand
B7734-40	4.0	4.5	4.3	12-Sep			5	
B7734-41	3.0		3.0	21-Sep			6	half plot only
B7734-42	4.0	3.0	3.5	27-Aug			7	
B7734-43	3.5	4.0	3.8	30-Aug			7	
B7734-44	2.0	2.5	2.3	12-Sep	2	M	6	
B7734-45	3.5	3.0	3.3	30-Aug	4	S	5	
B7734-46	2.5	3.0	2.8	12-Sep	2	M	6	
B7734-47	3.0	3.0	3.0	3-Sep	3	M	6	
B7734-48	4.0		4.0	12-Sep			4	sparse stand
B7734-49	3.5		3.5	12-Sep			6	sparse stand
B7734-50	3.5	4.0	3.8	25-Aug			6	
B7734-51	3.0	4.0	3.5	25-Aug			6	
B7734-52	3.5	4.0	3.8	12-Sep			5	
B7734-53	4.0	4.5	4.3	21-Sep				
B7734-54	3.0	3.5	3.3	8-Sep	5	H	6	sparse stand
B7735-1	2.5	3.0	2.8	3-Sep	3	L	5	
B7735-2	3.0	3.5	3.3	12-Sep	3	M	5	
B7735-3	3.0	3.0	3.0	30-Aug	1	L	5	half plot only
B7735-4	3.0	3.5	3.3	25-Aug			4	small plants
B7735-5	3.0	3.0	3.0	25-Aug	3	L	5	
B7735-6	4.0	4.0	4.0	25-Aug			7	
B7735-7	3.0		3.0	25-Aug		M	6	half plot only
B7735-8	3.5	3.5	3.5	25-Aug			6	
B7735-9	3.0	3.0	3.0		4	M	7	
B7735-10	3.0	4.0	3.5	12-Sep			7	

Table 19. Fusarium root rot infection, Corvallis, 2003 (cont.)

Line	Score <sup>z</sup>			Date <sup>y</sup>	Habit <sup>x</sup>	Fiber <sup>w</sup>	Vigor <sup>v</sup>	Notes
	Rep 1	Rep 2	Average					
B7735-11	3.5	2.5	3.0	3-Sep	3	L	7	
B7735-12	2.5	2.5	2.5	8-Sep	2	L	4	
B7735-13	1.5	3.0	2.3	8-Sep	3	M	5	
B7735-14	3.5	3.0	3.3	30-Aug	4	M	6	
B7735-15	3.0	4.0	3.5	8-Sep			5	
B7735-16	3.0	3.5	3.3	8-Sep	3	M	5	
B7735-17	3.0	3.0	3.0	8-Sep	2	M	6	
B7735-18	3.0	3.0	3.0	30-Aug	3	L	7	
B7735-19	2.5	3.0	2.8	30-Aug	1	L	6	
B7735-20	3.0	3.5	3.3	30-Aug	2	M	6	
B7735-21	3.5	3.5	3.5	30-Aug			6	
B7735-22	3.5	3.5	3.5	27-Aug			6	
B7735-23	3.0	3.5	3.3	3-Sep	2	L	7	
B7735-24	2.5	3.0	2.8	8-Sep	1	L		
B7735-25	2.0	2.5	2.3	3-Sep	3	M	6	
B7735-26	3.0	4.0	3.5	12-Sep			6	
B7735-27	3.5	4.0	3.8	12-Sep			5	
B7735-28	3.5	3.5	3.5	12-Sep			6	
B7735-29	4.0	3.5	3.8	3-Sep			7	
B7735-30	3.0		3.0	3-Sep	4	L		4 plants only
B7735-31	4.0	3.0	3.5	3-Sep			6	
B7735-32	3.0	3.0	3.0	3-Sep	3	L	5	
B7735-33	3.5	4.0	3.8	12-Sep			7	
B7735-34	4.0	4.5	4.3	12-Sep			6	
B7735-35	3.0		3.0	8-Sep		M	7	3 plants only
B7735-36	3.0	3.5	3.3	3-Sep	2	S	7	
B7735-37	3.5		3.5	12-Sep			6	sparse stand
B7735-38	4.0	3.5	3.8	8-Sep			6	
B7735-39	3.0	3.0	3.0	8-Sep	2	L	6	
B7735-40	3.5	4.5	4.0	12-Sep			5	
B7735-41	3.5	2.5	3.0	6-Aug	3	L	6	
B7735-42	3.5	4.5	4.0	8-Sep			5	
B7735-43	2.5	3.0	2.8	8-Sep	2	L	6	
B7735-44	2.5	3.0	2.8	30-Aug	1	L	6	
B7735-45	3.5		3.5	21-Sep			7	half plot only
B7735-46	4.0	4.0	4.0	25-Aug			6	
B7735-47	2.5	3.0	2.8	3-Sep	3	M	5	
B7735-48					2	L		2 plants only
B7735-49	4.5	3.5	4.0	8-Sep			6	
B7735-50	4.0		4.0	8-Sep			5	half plot only
B7735-51	3.0	3.5	3.3	8-Sep	3	M	6	
B7735-52	3.0		3.0	21-Sep			6	half plot only
B7735-53	3.0	3.0	3.0	8-Sep	5	L	7	
B7735-54	4.5	4.5	4.5	25-Aug			6	
B7735-55	3.5	3.5	3.5	8-Sep			7	
B7735-56	3.0	3.5	3.3	8-Sep	4	M	7	
B7735-57	2.5	2.5	2.5	27-Aug	4	L	7	
B7735-58	4.0	3.0	3.5	8-Sep			5	



Table 19. Fusarium root rot infection, Corvallis, 2003 (cont.)

Line	Score <sup>z</sup>			Date <sup>y</sup>	Habit <sup>x</sup>	Fiber <sup>w</sup>	Vigor <sup>y</sup>	Notes
	Rep 1	Rep 2	Average					
B7735-59	3.0	3.0	3.0	30-Aug	3	L	7	
B7735-60	2.5	2.5	2.5	3-Sep	3	L	6	
B7735-61	3.5	3.0	3.3	8-Sep	2	L	7	
B7735-62	1.0	3.5	2.3	8-Sep	3	L	7	
B7735-63	4.0	4.0	4.0	8-Sep			7	
B7735-64	3.0	3.0	3.0	12-Sep	4	L	6	
B7735-65	3.0	2.5	2.8	27-Aug	3	M	7	
B7735-66	3.0	2.5	2.8	8-Sep	4	L	6	
B7735-67	2.0	3.0	2.5	30-Aug	4	L	7	
B7735-68	3.0	3.0	3.0	25-Aug	3	L	6	
B7735-69	2.0	3.0	2.5	30-Aug	3	L	7	
B7735-70	3.5	4.0	3.8	8-Sep	4	L	6	
B7735-71	3.5	3.5	3.5	27-Aug			6	
B7735-72	2.0	1.5	1.8	3-Sep	4	M	7	
B7735-73	3.0		3.0	8-Sep	3	L	6	half plot only
B7735-74	3.5	3.0	3.3	8-Sep	3	L	6	
B7735-75	2.5	3.0	2.8	30-Aug	2	L	6	
B7738-1	3.0		3.0	21-Sep			7	half plot only
B7738-2	3.0	3.0	3.0	8-Sep	2	L	7	
B7738-3	3.0	3.0	3.0	8-Sep	5	H	6	
B7738-4	3.0	3.0	3.0	12-Sep	4	L	6	
B7738-5	3.5	3.0	3.3	8-Sep	4	H	6	
B7738-6	4.5	4.0	4.3	8-Sep			5	
B7738-7	3.5	3.5	3.5	27-Aug			5	
B7738-8	3.5	3.5	3.5	21-Sep			7	
B7738-9	3.0		3.0	21-Sep	3	H	7	half plot only
B7738-10	3.5	3.0	3.3	27-Aug	3	H	6	
B7738-11	3.0	4.0	3.5	12-Sep			7	
B7738-12	3.0		3.0	21-Sep	3	H	7	half plot only
B7738-13								virus
B7738-14	3.0	2.5	2.8	21-Sep			6	flat pods
B7738-15	3.0	3.0	3.0	8-Sep			4	
B7738-16	3.0	3.5	3.3	8-Sep	4	H	6	
B7738-17	3.5		3.5	21-Sep			6	half plot only
B7738-18	3.5	4.0	3.8	8-Sep			5	
B7738-19	3.5		3.5	21-Sep			6	half plot only
B7738-20	3.5	3.0	3.3	8-Sep	4	H	7	
B7738-21	3.5		3.5	12-Sep			4	sparse stand
B7738-22	2.5	3.0	2.8	27-Aug	3	M	6	
B7738-23	3.0	3.0	3.0	12-Sep	4	H	5	
B7738-24	3.5		3.5	8-Sep			6	2 plants only
B7738-25	3.0		3.0	21-Sep			5	half plot only
B7738-26	2.5	3.0	2.8	30-Aug	5	H	7	
B7738-27	3.0		3.0	21-Sep			6	half plot only
B7738-28	3.5	3.5	3.5	8-Sep				
B7738-29	2.0	2.5	2.3	25-Aug	3	L	7	
B7738-30	3.5	3.0	3.3	8-Sep	4	L	6	
B7738-31	3.5	4.0	3.8	8-Sep			6	

Table 19. Fusarium root rot infection, Corvallis, 2003 (cont.)

Line	Score <sup>z</sup>			Date <sup>y</sup>	Habit <sup>x</sup>	Fiber <sup>w</sup>	Vigor <sup>y</sup>	Notes
	Rep 1	Rep 2	Average					
B7738-32	3.5	2.5	3.0	27-Aug	2	M	8	
B7738-33	3.5	3.5	3.5	30-Aug			7	
B7738-34	3.0	3.0	3.0	27-Aug	4	L	6	
B7738-35	3.0	3.0	3.0	27-Aug	4	L	6	
B7738-36	3.5		3.5	21-Sep			7	half plot only
B7738-37	2.0	3.0	2.5	27-Aug	2	M	6	
B7738-38	1.0		1.0	21-Sep	2	L	5	half plot only; very late
B7738-39	3.0	3.5	3.3	8-Sep	4	H	6	
B7738-40	2.5	3.5	3.0	8-Sep	3	L	6	
B7738-41	3.5		3.5	21-Sep				half plot only
B7738-42	2.5	3.0	2.8	8-Sep	3	L	5	
B7738-43	2.5	2.5	2.5	21-Sep			5	
B7738-44	3.5		3.5	21-Sep			6	half plot only
B7738-45	3.0	3.0	3.0	12-Sep	3	M	7	long pods
B7738-46	3.5		3.5	21-Sep				3 plants only
B7738-47	4.0	3.5	3.8	8-Sep			7	
B7738-48	1.5		1.5	21-Sep	4	L	5	half plot only; very late
B7738-49	3.0		3.0	30-Aug		L	6	sparse stand
B7738-50	4.0	3.0	3.5	27-Aug			5	
B7738-51	4.0	3.0	3.5	25-Aug			4	
B7738-52	3.0	3.0	3.0	21-Sep			6	
B7738-53	3.0	3.0	3.0	3-Sep	4	H	5	
B7739-1	3.0		3.0	21-Sep			6	half plot only
B7739-2	1.0		1.0	21-Sep			5	half plot only; very late
B7739-3	3.5	4.0	3.8	12-Sep			5	
B7739-4	4.0		4.0	21-Sep			6	half plot only
B7739-5	3.5		3.5	21-Sep			7	half plot only
B7739-6	4.0	4.5	4.3	27-Aug			4	
B7739-7	3.0		3.0	21-Sep			7	half plot only
B7739-8	3.0	3.0	3.0	8-Sep	4	H	6	
B7739-9	3.0	3.0	3.0	8-Sep	4	L	6	
B7739-10	3.0	3.0	3.0	30-Aug			3	
B7739-11	3.5	4.0	3.8	12-Sep			6	
B7739-12	2.0	1.5	1.8	3-Sep	3	H	6	
B7739-13	4.0		4.0	21-Sep			4	half plot only
B7739-14	2.5		2.5	21-Sep	2	M	5	half plot only; late
B7739-15	3.5		3.5	21-Sep			6	half plot only
B7739-16	2.5	3.0	2.8	27-Aug	3	H	7	
B7739-17				21-Sep	3	S		few plants only
B7739-18	3.5		3.5	21-Sep			5	half plot only
B7739-19	2.0		2.0	21-Sep	1	H	6	half plot only
B7739-20	3.0	3.5	3.3	3-Sep	3	L	5	
B7739-21	3.0		3.0	21-Sep			5	half plot only; late
B7739-22	3.5	4.0	3.8	8-Sep			6	
B7739-23	3.5	3.5	3.5	3-Sep			7	
B7739-24	3.0	3.0	3.0	3-Sep	4	H	6	
B7739-25	3.5	3.0	3.3	21-Sep			5	
B7739-26	3.5		3.5	21-Sep			5	half plot only

Table 19. *Fusarium* root rot infection, Corvallis, 2003 (cont.)

Line	Score <sup>z</sup>			Date <sup>y</sup>	Habit <sup>x</sup>	Fiber <sup>w</sup>	Vigor <sup>v</sup>	Notes
	Rep 1	Rep 2	Average					
B7739-27	3.0	3.5	3.3	8-Sep	3	H	7	
B7739-28	2.5		2.5	21-Sep			6	half plot only
B7739-29	3.0	3.5	3.3	3-Sep	4	M	6	
B7739-30	2.0	2.5	2.3	3-Sep	2	M	6	
B7739-31	3.5	4.0	3.8	12-Sep			5	
B7739-32	2.5	3.0	2.8	8-Sep	3	H	7	
B7739-33	3.5	4.0	3.8	8-Sep			6	
B7739-34	3.0	3.0	3.0	27-Aug	3	H	7	
B7739-35	2.5	3.5	3.0	3-Sep	2	M	6	
B7739-36	3.0	3.0	3.0	21-Sep			5	
B7739-37	3.5	4.0	3.8	8-Sep			6	
B7739-38	3.0		3.0	21-Sep			5	half plot only; late
B7739-39	3.0	3.5	3.3	3-Sep	3	H	5	
B7739-40	4.0	3.5	3.8	8-Sep			6	
B7739-41	3.5		3.5	21-Sep				half plot only
B7739-42	3.5	3.5	3.5	8-Sep			7	
B7739-43	2.5		2.5	21-Sep			6	half plot only; late
B7739-44	3.0	3.5	3.3	30-Aug	4	L	5	
B7739-45	3.0	3.0	3.0	3-Sep	4	H	6	
91G	2.0	2.0	2.0	30-Aug			6	
5446	3.6	3.6	3.6	25-Aug			4	
B7030-24	2.0	2.0	2.0	12-Sep			7	
B7126-33-1-2	1.5	2.0	1.8	21-Sep			6	half plot only
B7239-5-4	3.0	3.0	3.0	12-Sep			5	
B7239-11-2	3.5	3.5	3.5	12-Sep			5	
DM4NY6	2.5	3.5	3.0	8-Sep			6	
DM6NY1	3.5	3.5	3.5	21-Sep			6	
FR266	2.0	2.0	2.0	12-Sep			6	
NY 5517	3.0	3.0	3.0	8-Sep				
RR 4270	3.0	3.5	3.3	8-Sep				
RR 6950	0.3	0.6	0.5	8-Sep			7	
WIS 46RR	3.0	2.5	2.8	8-Sep			6	
WIS 83RR	3.5	3.5	3.5	21-Sep			6	
6223	3.5	3.5	3.5	21-Sep			5	
6224	3.0	3.0	3.0	12-Sep			5	
6225	2.5	3.0	2.8	21-Sep			5	
6226	3.0	3.0	3.0	21-Sep			6	
6228	2.5	3.0	2.8	27-Aug			6	

<sup>z</sup>Two ratings were taken in each plot if there were sufficient plants; scores based on a 1-5 scale, with 1 = very light surface infection and 5 = roots mostly dead and plants stunted.

<sup>y</sup>Ratings were done for each variety when pods had reached 50% buckskin stage.

<sup>x</sup>Scores based on 1-5 scale, with 5 = upright.

<sup>w</sup>Fiber: L = low, M = moderate, H = high, S = segregating.

<sup>v</sup>Vigor scores take into account both plant size and yield, and are based on 1-10 scale with 10 = most vigorous

Table 20. White mold infection, Corvallis, 2003<sup>2</sup>

Line	White Mold Score			AV	Yield <sup>y</sup>	Habit <sup>x</sup>
	Rep 1	Rep 2	Rep 3		AV	AV
5416	8	6	9	7.7	2.2	1.8
5600	4	8	2	4.7	2.8	3.0
5613	4	8	6	6.0	1.8	2.5
5630	7	7	4	6.0	2.3	2.3
5635	5	8	8	7.0	2.2	2.7
5747	2	7	3	4.0	1.8	2.8
5978	10	7	9	8.7	1.0	1.3
6229	1	1	3	1.7	2.0	3.0
6230	1	3	1	1.7	1.7	3.0
6231	1	3	3	2.3	1.8	3.0
6232	3	4	4	3.7	2.3	3.0
6234	7	8	3	6.0	1.5	2.3
6235	2	4	1	2.3	1.3	2.7
6236	3	3	3	3.0	1.7	3.0
6237	7	6	8	7.0	1.2	2.0
6238	3	6	1	3.3	1.5	3.3
6239	4	4	4	4.0	2.0	3.0
6240	8	8	7	7.7	1.5	2.0
6241	5	5	5	5.0	1.8	2.2
6242	7	1	8	5.3	2.2	2.2
6243	3	7	4	4.7	2.2	3.3
6244	5	7	7	6.3	1.2	2.0
6245	4	3	3	3.3	3.0	2.7
6247	5	7	7	6.3	1.2	1.5
6248	4	3	4	3.7	2.5	2.0
6249	4	5	2	3.7	2.3	3.0
6250	8	7	8	7.7	1.7	1.8
6251	9	8	8	8.3	1.3	1.5
6252	7	3	4	4.7	1.7	2.7
6253	2	3	NA	2.5	3.5	2.8
6254	2	8	8	6.0	2.3	2.2
6255	5	5	7	5.7	1.8	1.7
6256	4	1	3	2.7	2.3	3.2
6257	7	5	4	5.3	2.8	3.0
6258	9	8	5	7.3	1.8	2.7
6259	6	9	6	7.0	2.5	2.5
6260	2	2	3	2.3	2.8	4.0
6261	9	4	6	6.3	2.5	2.8
6262	5	5	8	6.0	2.0	2.3
6263	4	4	2	3.3	3.5	3.7
6264	1	2	4	2.3	1.5	3.2
6265	1	2	6	3.0	1.8	2.5
6266	3	3	6	4.0	2.8	2.7
6267	5	3	7	5.0	1.2	2.7
6268	1	3	1	1.7	1.5	3.7
6269	3	4	1	2.7	1.3	3.3
6270	6	1	2	3.0	1.0	3.3

Table 20. White mold infection, Corvallis, 2003 (cont.)<sup>z</sup>

Line	White Mold Score			AV	Yield <sup>y</sup>	Habit <sup>x</sup>
	Rep 1	Rep 2	Rep 3		AV	AV
6271	3	3	5	3.7	1.3	3.5
6272	2	1	4	2.3	1.2	3.5
6273	8	8	3	6.3	1.5	2.2
6274	2	1	4	2.3	2.5	3.5
6275	8	4	9	7.0	1.7	2.2
6276	5	6	5	5.3	1.7	2.8
6277	8	NA	NA	8.0	2.0	2.5
6278	6	4	2	4.0	2.2	2.8
6279	8	6	3	5.7	1.3	2.5
6280	4	4	3	3.7	2.0	2.7
6281	4	4	4	4.0	1.5	3.2
6282	2	6	2	3.3	2.3	3.0
6283	4	7	NA	5.5	1.8	2.3
6284	5	6	5	5.3	1.8	2.3
6285	8	9	8	8.3	1.8	2.0
6286	4	4	4	4.0	3.2	2.7
6287	8	5	3	5.3	1.8	2.5
6288	7	3	NA	5.0	2.0	2.8
6289	3	4	7	4.7	1.7	2.5
6290	5	6	6	5.7	2.2	2.7
6291	6	6	7	6.3	1.5	2.3
6292	3	6	6	5.0	1.8	2.7
6294	7	4	NA	5.5	1.5	2.0
6295	6	3	3	4.0	1.7	2.7
6296	6	4	4	4.7	1.8	2.3
6297	3	8	2	4.3	1.7	2.3
6298	2	6	5	4.3	1.8	2.5
6299	3	3	NA	3.0	2.0	3.0
6300	4	5	7	5.3	2.5	2.7
6301	3	6	8	5.7	1.8	3.0
6302	3	7	6	5.3	1.5	2.7
6303	6	NA	NA	6.0	2.0	3.0
6304	7	8	7	7.3	0.8	2.7
6305	9	9	9	9.0	2.0	1.5
6306	9	9	3	7.0	1.8	2.2
6307	8	8	8	8.0	1.8	1.8
6308	7	9	8	8.0	1.7	2.0
6309	7	9	9	8.3	1.7	1.7
6310	8	9	8	8.3	1.8	2.2
6311	9	9	9	9.0	0.8	1.3
6312	9	8	8	8.3	1.8	2.0
6313	8	7	NA	7.5	1.5	2.0
6314	9	10	8	9.0	1.3	1.7
6315	9	7	7	7.7	1.8	2.0
6316	6	8	NA	7.0	1.5	2.0
6317	9	9	4	7.3	1.8	2.7
6318	8	4	7	6.3	2.3	2.2

Table 20. White mold infection, Corvallis, 2003 (cont.)<sup>2</sup>

Line	White Mold Score				Yield <sup>y</sup> AV	Habit <sup>x</sup> AV
	Rep 1	Rep 2	Rep 3	AV		
6319	7	9	9	8.3	1.8	1.8
6320	8	8	4	6.7	2.2	2.5
6321	9	9	8	8.7	1.5	1.8
6322	7	7	8	7.3	1.8	2.0
6323	10	8	6	8.0	2.0	1.7
6324	7	8	7	7.3	1.8	2.0
6325	9	8	8	8.3	2.2	2.0
6326	9	10	8	9.0	1.5	1.2
6327	5	5	7	5.7	2.3	2.3
6328	8	10	7	8.3	1.7	2.3
6329	9	6	8	7.7	1.7	1.8
6330	7	7	6	6.7	2.3	2.5
6331	8	8	8	8.0	1.8	1.7
6332	9	8	9	8.7	1.7	1.7
6333	5	8	7	6.7	1.8	2.2
6334	9	8	8	8.3	2.0	1.8
6335	9	4	7	6.7	2.0	2.2
6336	8	8	7	7.7	1.7	1.8
6337	9	7	8	8.0	2.2	1.7
6338	8	7	7	7.3	2.0	1.8
6339	4	8	9	7.0	2.2	1.5
6340	9	9	7	8.3	1.8	1.7
6341	9	9	8	8.7	1.2	1.2
6342	9	8	10	9.0	1.7	1.5
6343	7	7	7	7.0	1.7	2.3
6344	8	8	10	8.7	1.2	2.2
6345	7	7	NA	7.0	2.8	2.3
6346	9	7	8	8.0	1.8	2.0
6347	8	7	9	8.0	1.7	1.5
6348	8	7	9	8.0	1.5	1.8
6349	8	8	8	8.0	1.8	1.8
6350	8	8	5	7.0	1.3	2.0
6351	8	8	NA	8.0	2.0	2.0
6352	8	8	NA	8.0	1.5	2.3
6353	8	8	9	8.3	2.0	2.2
6354	9	8	7	8.0	2.2	2.5
6355	9	7	9	8.3	1.5	1.5
6356	8	8	4	6.7	2.0	2.2
6357	9	9	9	9.0	1.5	1.2
6358	7	8	8	7.7	1.7	2.3
6359	6	9	8	7.7	2.5	2.2
6360	8	7	8	7.7	2.3	2.5
6361	9	9	9	9.0	1.2	1.7
6362	9	8	3	6.7	1.8	2.3
6363	9	7	7	7.7	2.3	2.2
6364	7	9	9	8.3	1.3	1.2
6365	8	8	5	7.0	2.0	2.2

Table 20. White mold infection, Corvallis, 2003 (cont.)<sup>2</sup>

Line	White Mold Score				Yield <sup>y</sup>	Habit <sup>x</sup>
	Rep 1	Rep 2	Rep 3	AV	AV	AV
6366	6	8	7	7.0	2.2	2.0
6367	4	7	4	5.0	2.2	3.0
6368	6	7	7	6.7	2.0	2.3
6369	3	6	5	4.7	2.3	2.7
6370	7	4	7	6.0	1.8	2.7
6371	2	5	6	4.3	1.8	2.8
6372	8	6	2	5.3	1.7	2.7
6373	5	4	7	5.3	1.7	2.2
6374	6	7	5	6.0	1.3	2.7
6375	8	8	9	8.3	1.5	1.5
6376	9	8	8	8.3	1.8	1.7
6377	7	8	8	7.7	1.5	1.8
6378	9	9	9	9.0	1.2	1.3
6379	2	5	7	4.7	2.0	2.7
6380	8	7	8	7.7	2.0	2.2
6381	2	6	6	4.7	1.8	2.7
6382	9	8	8	8.3	1.0	1.7
6383	6	3	7	5.3	1.8	1.8
6384	7	6	7	6.7	2.3	2.2
6385	6	6	2	4.7	2.2	2.7
6386	4	4	4	4.0	2.2	3.0
6387	7	8	7	7.3	2.2	2.0
6388	9	8	8	8.3	1.0	1.7
6389	7	2	1	3.3	1.7	2.7
6390	2	2	2	2.0	1.5	2.5
6391	5	6	7	6.0	2.2	2.7
6392	6	4	3	4.3	2.2	3.0
6393	6	4	7	5.7	1.7	2.3
6394	6	6	7	6.3	2.0	1.8
6395	8	5	9	7.3	1.8	1.8
6396	7	8	6	7.0	2.5	2.5
6397	9	8	8	8.3	1.0	1.2
6398	4	10	6	6.7	1.5	2.2
6399	7	8	8	7.7	1.5	2.3
6400	9	9	8	8.7	1.7	2.0
6401	7	8	9	8.0	1.3	1.8
6402	7	7	7	7.0	2.2	2.3
225846	1	1	2	1.3	1.7	3.0
76-110	2	6	4	4.0	1.5	2.2
91G	7.5	8.5	5.5	7.2	2.2	1.7
Asher1DR	1	2	1	1.3	0.7	0.8
B7321-5-1-2-1	4	4	7	5.0	0.8	3.0
B7334-9-2-2-1	4	6	1	3.7	2.2	3.2
B7335-7-1-1-2	3	4	7	4.7	1.8	3.2
B7335-7-1-2-1	1	4	5	3.3	1.5	3.3
B7335-7-2-1-1	2	5	4	3.7	1.0	3.5
B7344-5-1-1	1	1	1	1.0	1.5	2.7

Table 20. White mold infection, Corvallis, 2003 (cont.)<sup>z</sup>

Line	White Mold Score			AV	Yield <sup>y</sup>	Habit <sup>x</sup>
	Rep 1	Rep 2	Rep 3		AV	AV
B7354-2-2-2-1	2	2	1	1.7	1.3	2.8
B7354-6-2-1	1	2	1	1.3	1.7	3.7
B7354-6-2-2	3	1	1	1.7	1.7	3.7
B7356-4-2-1	1	1	7	3.0	1.3	3.3
Ex Rico	7	3	3	4.3	2.5	3.2
FR 266	2	1	2	1.7	2.8	3.2
G122-1	3	1	2	2.0	3.3	3.5
H9658-9	2	5	6	4.3	2.2	2.7
L192	1	2	1	1.3	2.5	3.3
Minuette	3	2	1	2.0	2.7	3.7
MO 162	1	3	6	3.3	1.8	3.0
NY-15-161W	1	2	3	2.0	3.2	3.7
NY1-6020-4	3	2	2	2.3	1.7	2.8
NY1-6020-5	3	1	1	1.7	1.8	3.2
NY2-5984-1	1	3	3	2.3	2.8	3.2
NY5773	3	3	2	2.7	2.2	3.5
NY5972	3	1	4	2.7	2.3	3.0
NYBS6637	1	2	2	1.7	1.7	3.3
NYBS6643	1	1	1	1.0	1.8	3.2
Ore 54	7	7	4	6.0	2.7	2.5
PI207130-2-4	3	3	3	3.0	2.0	2.2
PI290990-4-1	3	1	2	2.0	2.7	3.0
SB 4123	2	6	4	4.0	2.3	3.3
LSD @ 5%				2.53	1.80	0.84

<sup>z</sup>White mold scores: 1-10, 1 = low incidence, no symptoms observed, 10 = high incidence, all plants in plot infected.

<sup>y</sup>Visual observation of yield: 0 = no bean set, 4 = high bean set.

<sup>x</sup>Upright habit: 1 = flat, 4 = vertically upright.

Table 21. Correlation Matrix of White Mold, Yield &amp; Habit, Corvallis, 2003

	Rep	White Mold	Yield	Upright
Rep	1.00	0.02	-0.04	0.01
White Mold		1.00	-0.35 *	-0.79**
Yield			1.00	0.45 *
Upright				1.00



**Table 22. Comparison of white mold field averages, Corvallis, 2003, 2002, 2001, 2000, 1999, & 1998**

Line	White Mold Field Score Average <sup>2</sup>					
	1998 AV	1999 AV	2000 AV	2001 AV	2002 AV	2003 AV
91G	6.75	8.50	7.75	8.25	8.25	7.17
Ore 54	7.25	9.00	7.50	6.75	9	6.00
5416	6.75	9.00	8.25	5.50	8.75	7.67
5600	4.75	7.75	8	3.75	8	4.67
5613	7.25	9.25	6.75	6.50	9	6.00
5630	5.75	8.00	5.25	7.25	8.75	6.00
5635	7.5	8.75	5.75	6.88	8.5	7.00
5747	3.5	5.50	4.75	5.13	6.5	4.00
225846	2	6.00	1.75	2.13	3.75	1.33
76-110	2.75	8.25	2	5.00	6.75	4.00
B7321-5-1-2-1	3	6.25	3	1.75	5.25	5.00
B7334-9-2-2-1	1.75	2.88	2	1.38	4.5	3.67
B7335-7-1-1-2	2.25	4.25	2.5	1.88	5	4.67
B7335-7-1-2-1	2	3.75	1.75	2.50	5.25	3.33
B7335-7-2-1-1	2	4.50	2	1.38	4.5	3.67
B7344-5-1-1	1.25	3.75	1.5	2.25	3.5	1.00
B7354-2-2-2-1	2	5.25	2.25	1.50	6	1.67
B7354-6-2-1	1.5	2.50	1.25	1.75	2.25	1.33
B7354-6-2-2	1.5	x	1	1.00	3.25	1.67
B7356-4-2-1	3.25	x	2	2.88	5	3.00
Ex Rico	4.5	6.50	5	4.13	7	4.33
FR 266	2.75	5.00	3.75	2.25	6	1.67
G122-1	x	3.75	2	1.50	4	2.00
H9658-9	1	4	2	2.13	4.5	4.33
L192	1.75	2.00	1.5	1.13	2.5	1.33
Minuette	5.5	8.50	4	5.25	7.75	2.00
MO 162	1.5	2.00	1	1.13	3.25	3.33
NY-15-161W	3.5	7	3	3.38	6.5	2.00
NY1-6020-4	3.5	x	3	2.63	4.75	2.33
NY1-6020-5	3	4	2.75	1.50	4.5	1.67
NY2-5984-1	2.25	4	2	1.50	3.25	2.33
NY5773	3	3.875	2.75	1.63	2.5	2.67
NY5972	2.5	3.75	1.25	1.63	3.25	2.67
NYBS6637	2.25	4.25	1.25	1.75	3.75	1.67
NYBS6643	2.25	5.75	1.75	1.63	4.25	1.00
PI207130-2-4	x	x	1.5	2.38	4	3.00
PI290990-4-1	x	x	2.5	2.25	3	2.00
SB 4123	4.5	7.75	4	4.00	5.5	4.00
Grand Ave.	3.39	5.61	3.21	3.08	5.32	3.35
LSD @ .05						0.99

<sup>2</sup>White mold scores: 1-10, 1 = low incidence, no symptoms observed, 10 = high incidence, all plants in plot infected.

<sup>x</sup>Blank spaces due to incomplete data sets.

Figure 2. Standard Bean \$/A 2003 - June 2 Planting

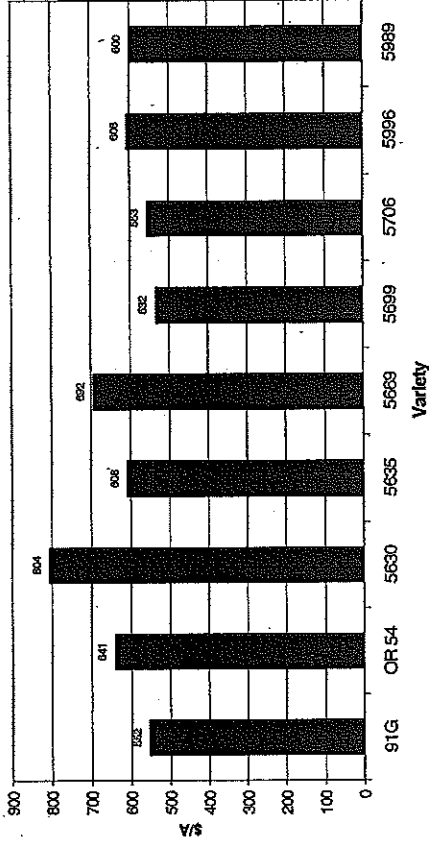


Figure 1. Standard Bean \$/A 2003 - May 2 Planting

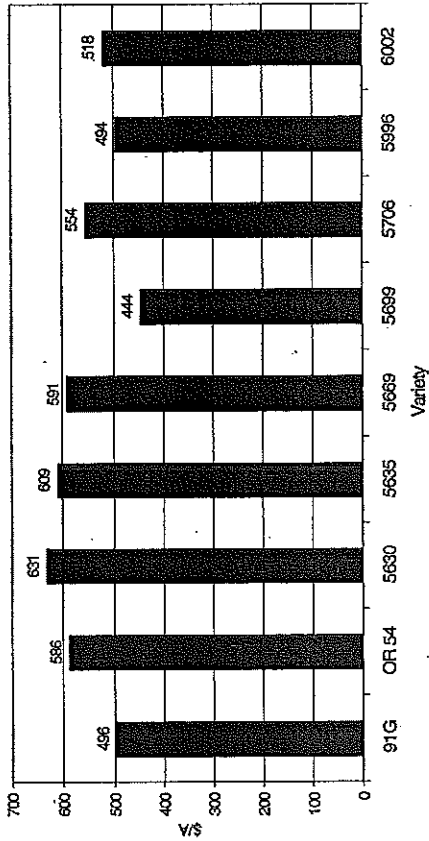


Figure 4. Small Sieve Bean \$/A 2003 - May 2 Planting

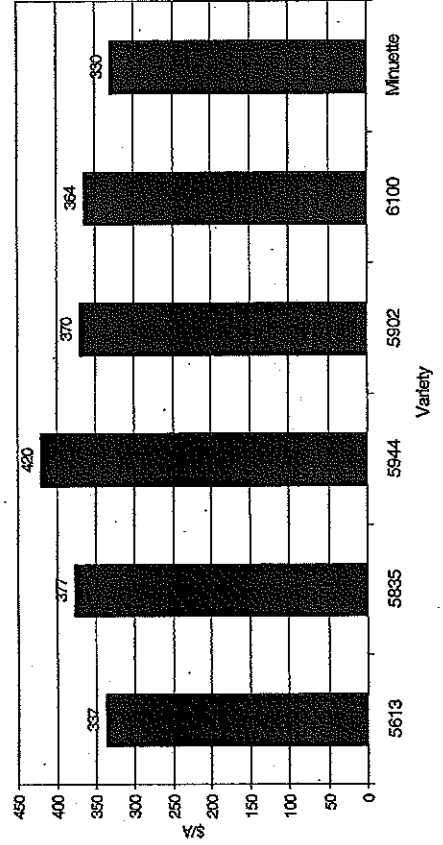


Figure 3. Standard Bean \$/A 2003 Season Average - Selected Harvests

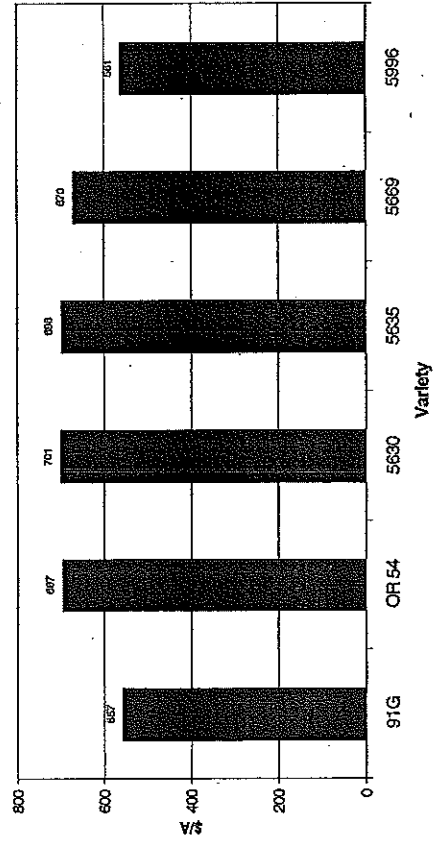


Figure 5. Small Sieve Bean \$/A.2003 - June 2 Planting

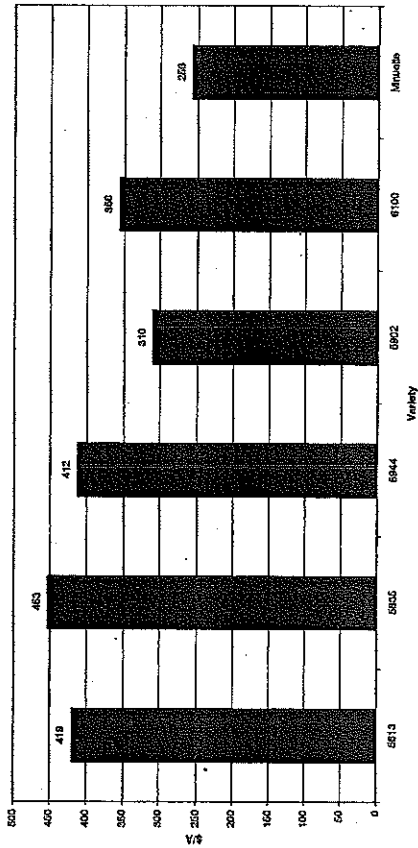


Figure 6. Small Sieve Bean \$/A.2003 Season Average - Selected Harvests

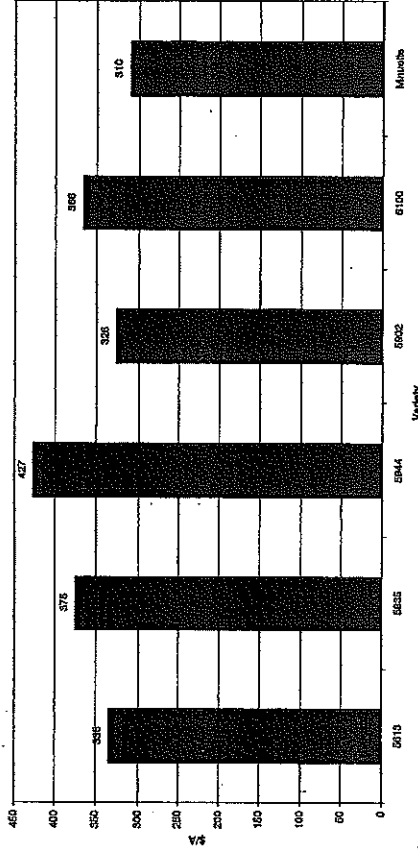


Figure 7. Commercial Bean \$/A.2003 - Full Sieve Varieties

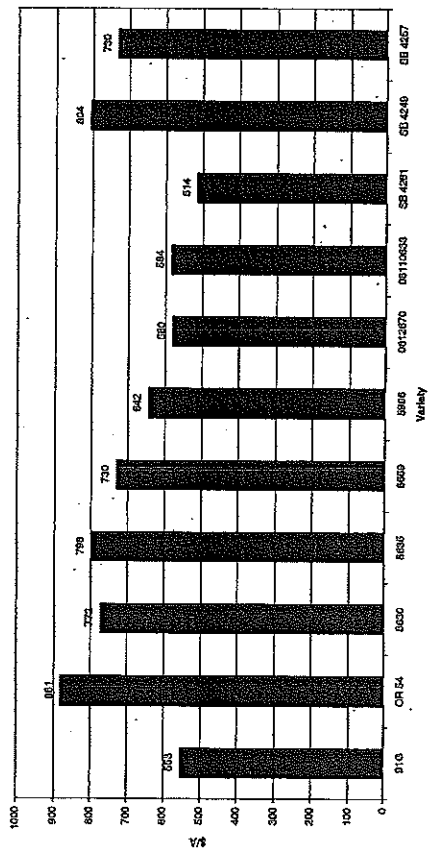


Figure 8. Commercial Bean \$/A.2003 - Small Sieve Varieties

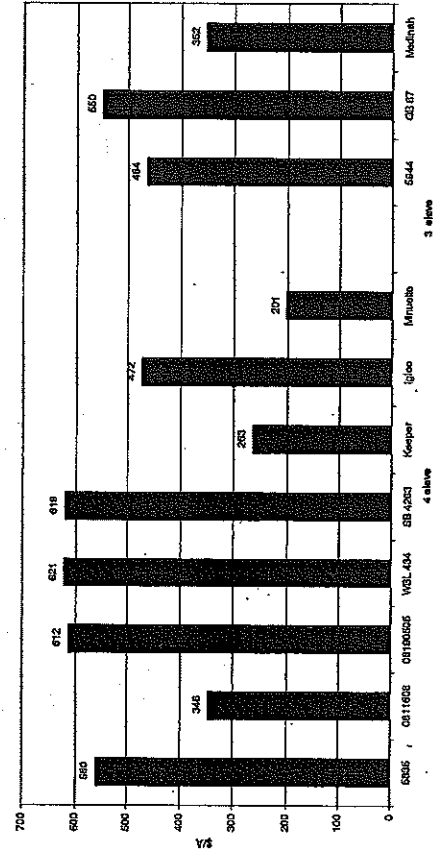


Figure 10. Standard Bean \$/A 2003 - Two Year Average

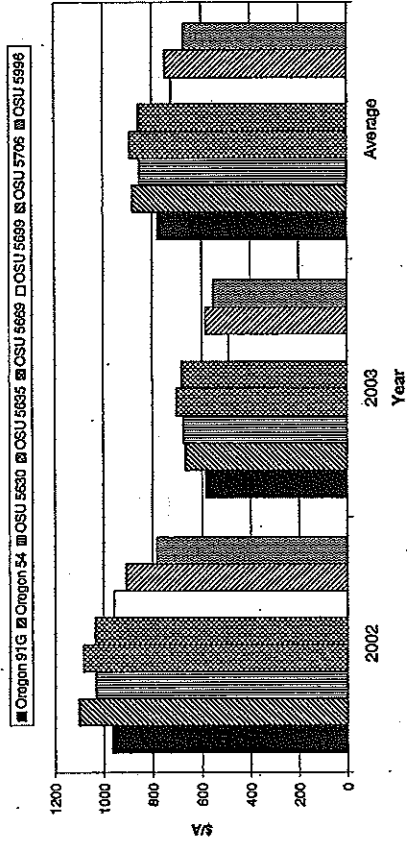


Figure 9. Standard Bean \$/A 2003 - Five Year Average

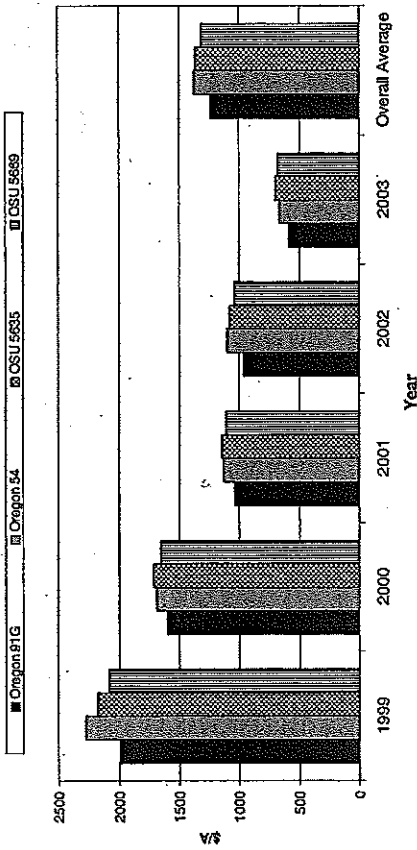


Figure 11. Small Sieve Bean \$/A 2003 - Two Year Average

