**Report to the Oregon Processed Vegetable Commission**
**2002–2003**

1. Title: Green Bean Breeding and Evaluation

2. Project Leaders: James R. Myers, Horticulture
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3. Project Status: Terminating 30 June, 2003

4. Project Funding: $59,244 breeding
$11,163 processing
$70,407 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 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.

v. Evaluate novel genetic traits of potential benefit.

6. Report of Progress:

Bean breeding lines and commercial varieties were tested in replicated trials planted 25 April, 13 May, 31 May, 11 June, and 25 June. The advanced trial planted 25 April consisted of four check varieties and six advanced lines planted in two-row plots replicated six times. The 13 May and 25 June trials were preliminary trials, and consisted of one row per entry replicated six times. These trials had five check varieties and 18 and 17 experimental lines, respectively. The 11 June trial consisted of four check varieties (two full sieve, and two small-sieve green beans), two OSU lines, and 17 commercial entries (all green beans except for one wax, and three Romanos) from five seed companies. The 31 May trial consisted of the parents and 80 recombinant inbred lines.

For all trials, five-foot sections of row were handpicked 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 31 May trial, only two replicates were used and five foot sections of row were harvested only once at full maturity.

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.

Data from replicated yield trials are summarized in Tables 1 - 12 and Figures 1 - 12. The RIL trial is summarized in tables 13 and 14, and figures 13 - 18. Root rot and white mold disease nursery data can be found in tables 15 – 18 and figure 19.

No major problems were encountered during the growing season. Split set was encountered particularly in later varieties in the first trial.

| | Season average $/A based on | | |
|---|---|---|---|
| Line | Trial averages[z] | Selected harvests[y] | Highest harvests |
| Oregon 91G | 871 | 926 | 908 |
| Oregon 54 | 962 | 1112 | 1019 |
| OSU 5630 | 966 | 1001 | 985 |
| OSU 5635 | 998 | 1055 | 1063 |
| OSU 5669 | 922 | 961 | 958 |
| OSU 5618 | 811 | 841 | 884 |
| LSD @5% | 127 | 113 | 123 |

[z]Average of 2-4 harvests from 3 trials, based on weight of graded beans adjusted to 50% 1-4 sieve.

[y]The harvest selected as best for comparison and used for analysis of variance at 50% 1-4 sieve in tables 5 and 6.

Advanced Standard Sieve OSU Lines: For full sieve advanced lines, OR 54, and OSU 5635 generally had the highest T/A and $/A values (see summary table left, Tables 1-6; Figures 1-4, 11). OR 91G generally had the lowest yields. OSU 5630 had greatest similarity to OR 91G, but showed long-term yields better than OR 91G. OSU 5669 was also similar to OR 91G and OSU 5630 for field performance but generally had better $/A value and greater T/A yields than either variety. OSU 5669 has significantly better pod color as well as straighter and smoother pods. OSU 5635 is most similar to OR 54 with straighter and smoother pods.

**Number and percent of trials in which yield (T/A) of 5635 and 5669 equaled or outperformed 91G and OR 54.**

| | 91G | | | | OR 54 | | | |
|---|---|---|---|---|---|---|---|---|
| Line | Total No. Trials | No. Trials ≥ | % Trials ≥ | Overall %[z] | Total No. Trials | No. Trials ≥ | % Trials ≥ | Overall %[y] |
| 5635 | 30 | 25 | 83 | 109 | 30 | 16 | 53 | 101 |
| 5669 | 27 | 19 | 70 | 104 | 27 | 12 | 44 | 98 |
| 5630 | 23 | 13 | 57 | 100 | 23 | 10 | 43 | 94 |
| 5699 | 6 | 3 | 50 | 102 | 7 | 2 | 29 | 94 |
| 5706 | 6 | 5 | 83 | 102 | 7 | 3 | 43 | 95 |

[z]Overall T/A of selected lines expressed as a percent T/A of 91G.

[y]Overall T/A of selected lines as a percent of OR 54.

Five year averages for yield and $/A values are shown (next page) for full sieve advanced lines and checks. Trends in the data generally suggest the following order: OR 54 = OSU 5635 > OSU 5669 > OSU 5630 > OR 91G. Also shown (table left) are number and percent of trials in which advanced lines outperformed the checks, as well as yield advantage over

| Five year average for full sieve beans[z] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Year | | | | | | | |
| Line | 1998 | 1999 | 2000 | 2001 | 2002 | Overall Average | Average of 1998, 1999 and 2002 | Average of 2000, 2001 and 2002 |
| | Adjusted T/A | | | | | | | |
| Oregon 91G | 8.3 | 11.5 | 9.4 | 12.8 | 11.7 | 10.7 | 10.5 | 11.3 |
| Oregon 54 | 8.5 | 13.2 | 9.9 | 13.9 | 13.3 | 11.7 | 11.7 | 12.4 |
| OSU 5630 | 8.3 | 11.2 | | | 12.6 | | 10.7 | |
| OSU 5635 | 9.4 | 12.6 | 10.1 | 14.0 | 13.1 | 11.8 | 11.7 | 12.4 |
| OSU 5669 | 8.9 | 12.2 | 9.7 | 13.7 | 12.5 | 11.4 | 11.2 | 12.0 |
| OSU 5618 | | | 9.3 | 12.7 | 10.4 | | | 10.8 |
| OSU 5699 | | | 10.0 | 12.9 | 11.6 | | | 11.5 |
| OSU 5706 | | | 9.7 | 14.2 | 10.9 | | | 11.6 |
| LSD @5% | 1.0 | 1.5 | NS | NS | 1.9 | 0.4 | 0.8 | 1.0 |
| | $/A | | | | | | | |
| Oregon 91G | 1450 | 1989 | 1595 | 1039 | 967 | 1408 | 1469 | 1200 |
| Oregon 54 | 1489 | 2277 | 1689 | 1133 | 1102 | 1538 | 1623 | 1308 |
| OSU 5630 | 1464 | 1914 | | | 1033 | | 1470 | |
| OSU 5635 | 1646 | 2172 | 1714 | 1142 | 1081 | 1551 | 1633 | 1312 |
| OSU 5669 | 1580 | 2084 | 1653 | 1109 | 1037 | 1493 | 1567 | 1266 |
| OSU 5618 | | | 1577 | 1031 | 863 | | | 1157 |
| OSU 5699 | | | 1697 | 1046 | 958 | | | 1234 |
| OSU 5706 | | | 1645 | 1147 | 909 | | | 1234 |
| LSD @5% | 179 | 242 | NS | NS | 170 | 71 | 143 | 77 |

[z]Average of 5, 4, 2, 2 and 2 trials in 1998, 1999, 2000, 2001and 2002 respectively. Based on field yields adjusted to 50% 1-4 sieve.

the check varieties. OSU 5669 had greater yields than OR 91G in 70% of 27 trials conducted over the past five years and out-yielded OR 91G on average by 104%. OSU 5630 had yields higher than OR 91G in 57% of 23 trials with yield equivalent to OR 91G. OSU 5635 out-yielded OR 91G by 109% in 83% of 30 trials. OSU 5635 out-yielded OR 54 53% of the time with overall yield 101% of the check. Other advanced lines are lower yielding than OR 54.

Other lines for which multi-year data are available include OSU 5618, OSU 5699, and OSU 5706. These lines have been tested for three years (above). OSU 5618 had yields lower than OR 91G, but the other lines were generally intermediate to OR 91G and OR 54. OSU 5699 and OSU 5706 beat OR 91G in 50 and 83% of six trials, respectively, with a yield advantages of 102% of the check. Neither line out-yielded OR 54.

In terms of pod quality, OSU 5635 had better color than OR 91G and similar to OR 54. OSU 5635 also had straighter and smoother pods than most other advanced lines or checks, with pod length similar to OR 54. OSU 5669 had significantly better pod color in most trials compared to checks and other advanced lines. Pod length of OSU 5669 was shorter than OR 91G (approximately 14 vs. 15 cm), which contributes to pod straightness. Pod straightness and smoothness were much better than OR 91G and OR 54. OSU 5618 is similar to OR 91G in most pod quality traits, but was notable in grading cleanly

and quickly. While this line probably does not have sufficient potential for release, its clean grading ability should be investigated.

OSU 5635 is from the cross OR 54 X OSU 5163. Growth habit of OSU 5635 in the field is similar to OR 54. OSU 5635 is about a day earlier in maturity than OR 54. Overall, OSU 5635 would be suitable as a replacement for OR 54. It does appear to be more concentrated in set than does OR 54.

OSU 5669 is from the cross OSU 5256 X OR 54. It is similar in maturity to OR 91G. It is probably the best candidate at present to replace OR 91G. The major question with this variety is the apparent semi-hard seed trait when seed is produced under the very dry conditions of the intermountain region of the Pacific Northwest. Seed companies report below standard germination rates from seed evaluated just after harvest, but once seed has moisturized in the Willamette Valley prior to planting, germination appears normal. The semi-hard seed trait causes hard seed when seed moisture content falls below about 10%. When seed are moisturized to 12%, hard seed germination inhibition disappears. Seed companies can and do moisturize seed of particular varieties during seed conditioning. Until the germination question can be answered, plans for release should proceed cautiously.

Other standard sieve lines: Two preliminary trials were grown this year with eight standard sieve lines included in addition to the advanced lines (Tables 2 & 3; Figures 2 & 3). OSU 5699, OSU 5706 and OSU 5996 were repeats from last year's trials. New this year was OSU 5792, OSU 6002, OSU 6094, and OSU 6178. OSU 5699 and OSU 5706 (both OSU 5256 X OSU 5416) had T/A and $/A values that were comparable to, or greater than OR 54, and had very good pod quality.

Perhaps the most interesting of the new full sieve beans is OSU 5996. It is a persistent chlorophyll (*pc*) type with mature green seeds and foliage that remains green after senescence, from the cross OR 54 x Hypak. Pods are of excellent quality and extremely dark green in color. It has a very erect plant habit with pods generally set high on the plant. Yields were similar to OR 91G in the 13 May trial, but were significantly less in the 25 June trial. The same trend was seen in the previous year, suggesting that OSU 5996 does not perform well as a mid to late season bean. Like other *pc* varieties, this line exhibits lower germination and emergence than normal seeded lines, and requires a fungicide seed treatment for normal stand establishment. The line may have too many flaws to be considered for release to the industry but should be used in crosses. A similar line (OSU 6002) from the same parentage has many of the attributes of OSU 5996, but in the single test (25 June) in which it was entered, its $/A value was significantly better than OSU 5996 and similar to OR 91G.

Lines tested for the first time included OSU 5792 (OSU 5446 X OR 91G), OSU 6094 ('Maxima' X OR 91G), and OSU 6178 (OR 91G X 'Minuette'). OSU 5792 had relatively low yield in the first trial, and a tendency to ovals and flats in the second trial (a characteristic from the OSU 5446 parent) and was subsequently dropped. OSU 6094 and OSU 6178 represent the first of a series of lines with the objective of introgressing improved plant growth habit into the BBL background. OSU 6094 had acceptable yield and very long pods but lacked the desired plant habit in these environments. In the single trial in which it was grown, OSU 6178 had good growth habit, but was the lowest yielding

entry in the trial (although not significantly different from OR 91G). It should be tested again next year. OSU PC was a *pc* mix founding OSU 5643. Because it was the predominant portion of the mix in the first trial, we decided to trial it although we did not know its origin. Genetically uniform stands were ensured by roguing seedlings with normal cotyledons (*pc* plants have white cotyledons). Although similar to OSU 5996 and OSU 6002 in pod quality and plant architecture, it was low yielding, and we will probably not continue the line.

Small Sieve Beans: (Tables 7-10, Figures 5-8, 12). OSU 5613, Minuette, and Medinah were used as checks for comparison to small sieve beans. Minuette produces a majority of three and four sieve beans while OSU 5613 and Medinah 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. The former is a four-sieve bean whereas 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 the highest $/A values of the small sieve green beans in 2002 (tables right). 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.

| Season Average $/A based on | | | |
|---|---|---|---|
| Line | Trial Averages | Selected Harvests[y] | Highest Harvests |
| OSU 5613 | 627 | 600 | 710 |
| OSU 5835 | 785 | 785 | 800 |
| OSU 5944 | 569 | 510 | 666 |
| Minuette | 544 | 562 | 587 |
| LSD @5% | 227 | 190 | NS |

[z]Average of 2-5 harvests from 3 trials, based on weight of graded beans.

[y]The harvest selected as best for comparison and used for analysis of variance in table 10.

| Two year average for small sieve beans[z] | | | | | | |
|---|---|---|---|---|---|---|
| | T/A | | | $/A | | |
| Line | 2001 | 2002 | Av | 2001 | 2002 | Av |
| 5613 | 9.2 | 7.1 | 8.2 | 803 | 635 | 719 |
| 5835 | 12.1 | 9.7 | 10.9 | 1145 | 824 | 985 |
| 5944 | 9.3 | 6.2 | 7.8 | 798 | 544 | 671 |
| Minuette | 8.6 | 6.2 | 7.4 | 935 | 587 | 761 |
| LSD @ 5% | 1.5 | 2.0 | 1.1 | 146 | 192 | 181 |

[z]Average of 2 and 3 trials in 2001 and 2002 respectively. Yields are field yields.

| Number and percent of trials where yield and $ value of 5835 and 5944 equaled or outperformed Minuette | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | T/A[z] | | | $/A[y] | | |
| Line | Total No. Trials | No. Trials ≥ | % Trials ≥ | Overall %[z] | No. Trials ≥ | % Trials ≥ | Overall % |
| 5835 | 8 | 7 | 88 | 133 | 7 | 88 | 116 |
| 5944 | 7 | 3 | 43 | 98 | 2 | 29 | 88 |

[z]Overall T/A expressed as a percent T/A of Minuette.

[y]Overall $/A expressed as a percent $/A of Minuette.

Other small sieve beans in preliminary trials included OSU 5778 (S&G 6192 X OSU 5455), OSU 5842 (OR 54 X OSU 5446), OSU 5902 (OSU 5446 X 'Teseo'), OSU 5993 (OR 54 X 'Hypak'), and OSU 6100 (OR 91G X 'Maxima'). OSU 5778 is a two – three sieve bean with very straight pods and yields similar to Medinah. OSU 5842 is a sister line of OSU 5835, but has greater tendency to oval pods and will be discarded. OSU 5902 is a sister line to OSU 5944 with high quality pods and better yields than its sister

line. It should be considered for trial again next year. Yield of OSU 5993 was intermediate to the small sieve checks and OSU 5835. Pods tended to be too light. The line should probably be dropped from the program. OSU 6100 had relatively high yields for a small sieve bean (a mix of three and four sieve pods). Pods were long, and may be too high fiber for processing (examination at the cutting will give insight).

Commercial Bean Trial: Varieties supplied by private breeders were grown in a commercial trial planted on 11 June (Tables 11 and 12, Figures 9 and 10). Two lines that are very close to the BBL type, and have been tested in the past three years were SB 4247 and SB 4249. SB 4247 again showed good plant architecture, and both SB lines had yields similar to OR 91G. While not a BBL type KSI 196 appeared to be of good quality with smooth, straight pods. Highest yielding among the small sieve types was SB 4087 with yields rivaling OR 54. A similar pattern was observed in 2001. Color of SB 4087 was similar to OR 91G. EX 08190504 was again notable for its very slow seed development.

Recombinant Inbred Trial: A recombinant inbred (RI) population based on the cross Minuette x OSU 5630 and its reciprocal was evaluated for the second year for yield and processing traits (Tables 13 and 14, Figures 13-18). It had been previously evaluated for morphological and horticultural traits (plant height, internode length, branching, leaf color, leaf size, pod color, pod straightness, pod distribution, pod clustering, crop load, lodging, stem thickness, hybrid weakness factor (*Dl*) and shiny vs. dull pods (*ace*). This population is being used to elucidate the genetic control of processing traits in green beans. Percent 1-4 sieve pod distribution was bimodal, with a higher peak at 90 - 99% 1-4 sieve (Figure 13). Such a pattern would suggest that small sieve size is dominant over large sieve size, and relatively few genes control the trait. Color scores were fairly widely distributed, but showed a roughly unimodal distribution, suggestive of additive gene action where many genes with strong environmental effects were involved (Figure 14). Pod length exhibited a possible bimodal distribution; in 2001, the distribution was skewed towards shorter pod length (Figure 15). Pod straightness showed a similar distribution (Figure 16) and may in fact be correlated with pod length. Pod smoothness also showed a normal distribution with skewing towards smoothness (Figure 17). Pod width and height are plotted together to give a representation of pod cross-section shape (Figure 18). The dashed line indicates equal length and height as would be expected for pods with round cross section. Pods to the left of the line are oval; those to the right of the line are creaseback in cross section. The scatter of points is suggestive of a normal distribution, but skewed towards creaseback cross sectional shape.

One of the most interesting discoveries from these data is the fact that transgressive segregation was observed for nearly every trait. It is most apparent for pod cross-section, where two round-podded parents were crossed, but produced oval (nearly flat) to extreme creaseback podded progeny. Such transgressive segregation would suggest that different gene complexes have been fixed in the two parents. This is not entirely unexpected because the Oregon BBL types arise from the Mesoamerican center of domestication, and Minuette represents a Midwestern snap bean type of the Andean center of domestication. In other Mesoamerican X Andean crosses, substantial genetic differences have been found, and it is difficult to obtain useful recombinants from these crosses.

Data were also collected on presence of pod suture strings, and pod shininess. Shiny vs. dull pods segregated in a 1:1 ratio as would be expected for a single gene. A preliminary genetic map based on random amplified polymorphic DNA (RAPD) markers has been developed (Figure 19).

Root rot and white mold trials: A root rot trial containing 134 breeding lines and 17 checks was grown in two replicates and evaluated (Table 15). Disease severity for susceptible lines was relatively high. Fifty-nine breeding lines had scores of 3.0 or lower and were not significantly different from the resistant checks. These will be retested in 2003.

One hundred checks, breeding lines and germplasm accessions were grown in a white mold nursery (Table 16). Disease severity was relatively high in 2002, and about the same as in 1999 (Figure 20). OSU 5978 was completely susceptible this year. One line that was significantly better than other BBL breeding lines was OSU 5962. This line had moderate resistance and should be retested next year. Correlation among white mold incidence, estimated yield, and growth habit (Table 17) showed a significant negative correlation between white mold score and growth habit, score and estimated yield, and a significant positive correlation between yield and growth habit. A correlation between growth habit and score was observed in spite of the fact that we reduced row spacing from 36 to 30 inches this year. White mold field and straw test ratings over the past five years are shown in Table 18.

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 the summer of 2002. The early season trial consisted of only advanced lines, two preliminary line trials were grown, one trial of mostly commercial varieties was planted in mid season, and one trial was performed to collect additional data for genetic analysis and mapping of green bean processing traits. Best advanced full sieve lines continue to be OSU 5669 and OSU 5630. Among small sieve lines, OSU 5835 (a four sieve bean) and OSU 5944 (a three sieve line) are of interest. A number of promising lines of all sieve sizes were tested in preliminary trials. Data from the recombinant inbred trial indicates that different gene complexes control traits in Oregon BBL lines compared to Midwestern green beans. This explains the difficulty in introgressing germplasm from outside the BBL genetic base and suggests potential strategies that may allow easier access to desirable traits not currently found in the BBL gene pool. A number of lines appear promising for root rot resistance. With a very severe white mold trial in 2002, only one breeding line (OSU 5962) appeared to have partial resistance.

**Table 1. Yields of advanced OSU standard green bean lines, April 25 Planting, Corvallis, 2002.[z]**

| Line | Av. Stand | Days | % 1-4 | T/A | Adj. 50% | Adj. 60% | Av. Adj. T/A 50%[y] | Av. Adj. T/A 60%[y] |
|---|---|---|---|---|---|---|---|---|
| 91G | 140 | 79 | 54 | 9.8 | 10.2* | 9.3* | 10.7 | 9.8 |
| | | 81 | 42 | 12.0 | 11.1 | 10.2 | | |
| OR 54 | 140 | 79 | 76 | 7.9 | 9.9 | 8.9 | 11.4 | 10.4 |
| | | 81 | 65 | 9.0 | 10.3 | 9.3 | | |
| | | 83 | 62 | 10.6 | 11.8 | 10.7* | | |
| | | 85 | 55 | 13.1 | 13.7* | 12.5 | | |
| 5630 | 138 | 79 | 63 | 10.7 | 12.1 | 11.0* | 11.5 | 10.6 |
| | | 81 | 51 | 11.2 | 11.3* | 10.4 | | |
| | | 83 | 43 | 12.0 | 11.1 | 10.3 | | |
| 5635 | 140 | 79 | 78 | 8.0 | 10.2 | 9.2 | 11.6 | 10.5 |
| | | 81 | 72 | 9.1 | 11.1 | 10.0 | | |
| | | 83 | 54 | 11.7 | 12.2* | 11.1* | | |
| | | 85 | 62 | 11.6 | 13.0 | 11.8 | | |
| 5669 | 140 | 79 | 57 | 8.2 | 8.8 | 8.0* | 9.5 | 8.7 |
| | | 81 | 51 | 9.6 | 9.7* | 8.9 | | |
| | | 83 | 46 | 10.4 | 10.0 | 9.2 | | |
| 5618 | 140 | 79 | 51 | 8.5 | 8.6 | 7.9 | 10.2 | 9.4 |
| | | 81 | 52 | 9.5 | 9.7* | 8.9* | | |
| | | 83 | 47 | 10.6 | 10.3 | 9.5 | | |
| | | 85 | 45 | 12.7 | 12.1 | 11.1 | | |

[z]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 5 & 6) was calculated using the harvest marked with *.

[y]Average Adj. T/A is a rough estimate because of non-uniform number of harvests included.

**Table 2. Yields of preliminary OSU green bean lines, May 13 planting, Corvallis, 2002.[z]**

| Line | Av. Stand | Days | % 1-4 | T/A | Adj. 50% | Adj. 60% | Av. Adj. T/A 50%[y] | Av. Adj. T/A 60%[y] |
|---|---|---|---|---|---|---|---|---|
| 91G | 140 | 70 | 54 | 11.5 | 12.0* | 11.0* | 11.7 | 10.7 |
| | | 72 | 42 | 12.3 | 11.3 | 10.4 | | |
| OR 54 | 139 | 71 | 80 | 8.6 | 11.1 | 10.0 | 12.0 | 10.9 |
| | | 72 | 71 | 10.0 | 12.1 | 10.9* | | |
| | | 74 | 48 | 13.0 | 12.7* | 11.7 | | |
| 5630 | 138 | 70 | 76 | 10.8 | 13.6 | 12.2 | 13.3 | 12.0 |
| | | 72 | 63 | 11.5 | 13.0* | 11.8* | | |
| 5635 | 139 | 71 | 85 | 10.2 | 13.7 | 12.3 | 13.1 | 11.8 |
| | | 72 | 75 | 10.5 | 13.1 | 11.8* | | |
| | | 74 | 54 | 12.0 | 12.5* | 11.4 | | |
| 5669 | 140 | 71 | 75 | 11.2 | 14.0 | 12.6* | 13.5 | 12.2 |
| | | 73 | 53 | 12.6 | 12.9* | 11.8 | | |
| 5618 | 137 | 71 | 64 | 10.7 | 12.2 | 11.1* | 11.5 | 10.5 |
| | | 73 | 47 | 11.0 | 10.7* | 9.9 | | |
| 5705 | 140 | 71 | 62 | 10.4 | 11.6 | 10.5* | 11.0 | 10.1 |
| | | 73 | 48 | 10.7 | 10.4* | 9.6 | | |
| 5706 | 128 | 71 | 69 | 9.6 | 11.4 | 10.3* | 10.8 | 9.9 |
| | | 73 | 43 | 11.0 | 10.2* | 9.4 | | |
| 5996 | 131 | 70 | 63 | 9.4 | 10.6 | 9.6* | 10.4 | 9.5 |
| | | 72 | 47 | 10.5 | 10.2* | 9.4 | | |
| 5699 | 140 | 70 | 70 | 11.1 | 13.4 | 12.1 | 12.5 | 11.4 |
| | | 72 | 55 | 11.1 | 11.6* | 10.6* | | |
| 5792 | 140 | 70 | 61 | 10.3 | 11.4* | 10.3* | 10.7 | 9.7 |
| | | 72 | 47 | 10.2 | 9.9 | 9.1 | | |
| 6094 | 140 | 71 | 64 | 10.8 | 12.3 | 11.2* | 12.4 | 11.3 |
| | | 72 | 57 | 11.6 | 12.4* | 11.3 | | |
| 6178 | 136 | 71 | 62 | 8.3 | 9.3* | 8.4* | 9.1 | 8.3 |
| | | 73 | 47 | 9.0 | 8.8 | 8.1 | | |
| OSU PC[x] | 127 | 71 | 61 | 8.2 | 9.1 | 8.3* | 9.6 | 8.8 |
| | | 73 | 39 | 11.2 | 10.0* | 9.3 | | |

[z]Mean of 4 replications; subplots of 5' were harvested from single 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 5 & 6) was calculated using the harvest marked with *.

[y]Average Adj. T/A is a rough estimate because of non-uniform number of harvests included.

**Table 3. Yields of preliminary OSU green bean lines, June 25 planting, Corvallis, 2002.[z]**

| Line | Av. Stand | Days | % | T/A | Adj. 50% | Adj. 60% | Av. Adj. T/A 50%[y] | Av. Adj. T/A 60%[y] |
|---|---|---|---|---|---|---|---|---|
| 91G | 150 | 62 | 55 | 10.6 | 11.1 | 10.1* | 10.6 | 9.8 |
| | | 64 | 52 | 11.2 | 11.4* | 10.4 | | |
| | | 66 | 28 | 12.0 | 9.3 | 8.8 | | |
| OR 54 | 150 | 65 | 46 | 13.3 | 12.8 | 11.8 | 13.4 | 12.3 |
| | | 66 | 51 | 13.7 | 13.9* | 12.7* | | |
| 5630 | 147 | 62 | 87 | 8.7 | 11.9 | 10.7 | 12.0 | 10.8 |
| | | 65 | 64 | 10.5 | 12.0 | 10.8 | | |
| | | 66 | 61 | 11.0 | 12.2* | 11.0* | | |
| 5635 | 149 | 65 | 59 | 12.5 | 13.7* | 12.4* | 13.2 | 12.0 |
| | | 66 | 51 | 12.4 | 12.6 | 11.5 | | |
| 5669 | 150 | 62 | 65 | 10.9 | 12.6 | 11.4* | 12.1 | 11.1 |
| | | 64 | 55 | 11.5 | 12.1* | 11.0 | | |
| | | 66 | 38 | 13.3 | 11.7 | 10.9 | | |
| 5618 | 150 | 62 | 76 | 6.6 | 8.3 | 7.5 | 9.5 | 8.7 |
| | | 64 | 60 | 9.4 | 10.3 | 9.4* | | |
| | | 66 | 46 | 10.4 | 10.0* | 9.2 | | |
| 5706 | 149 | 64 | 58 | 10.6 | 11.5 | 10.4* | 11.3 | 10.3 |
| | | 65 | 48 | 11.9 | 11.6* | 10.7 | | |
| | | 66 | 41 | 11.7 | 10.7 | 9.9 | | |
| 5996 | 147 | 62 | 70 | 8.1 | 9.7 | 8.8 | 9.3 | 8.5 |
| | | 64 | 64 | 8.4 | 9.6 | 8.7* | | |
| | | 66 | 39 | 9.6 | 8.5* | 7.9 | | |
| 5643 | 141 | 62 | 83 | 10.3 | 13.7 | 12.2 | 13.6 | 12.3 |
| | | 65 | 58 | 13.4 | 14.4 | 13.1* | | |
| | | 66 | 53 | 12.2 | 12.6* | 11.5 | | |
| 5699 | 150 | 62 | 58 | 10.0 | 10.8 | 9.8* | 10.9 | 10.0 |
| | | 64 | 53 | 11.2 | 11.5* | 10.5 | | |
| | | 66 | 35 | 12.4 | 10.5 | 9.8 | | |
| 6002 | 150 | 63 | 78 | 8.4 | 10.8 | 9.7 | 10.9 | 9.9 |
| | | 65 | 59 | 10.1 | 11.0* | 10.1* | | |
| 6094 | 150 | 65 | 48 | 12.7 | 12.4* | 11.4* | 11.9 | 11.0 |
| | | 66 | 49 | 11.5 | 11.4 | 10.5 | | |

[z]Mean of 4 replications; subplots of 5' were harvested from single 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 5 & 6) was calculated using the harvest marked with *.

[y]Average Adj. T/A is a rough estimate because of non-uniform number of harvests included.

**Table 4. Dollar return/acre for standard OSU bean lines, Corvallis, 2002.[z]**

| Trial | Line | Harvest 1 Days | % | $ | Harvest 2 Days | % | $ | Harvest 3 Days | % | $ | Harvest 4 Days | % | $ | Avg. $/A[y] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 91G | 79 | 54 | 814 | 81 | 42 | 893 | | | | | | | 854 |
| 25-Apr | OR 54 | 79 | 76 | 752 | 81 | 65 | 814 | 83 | 62 | 918 | 85 | 55 | 1079 | 891 |
| | 5630 | 79 | 63 | 960 | 81 | 51 | 909 | 83 | 43 | 900 | | | | 923 |
| | 5635 | 79 | 78 | 803 | 81 | 72 | 878 | 83 | 54 | 947 | 85 | 62 | 1016 | 911 |
| | 5669 | 79 | 57 | 659 | 81 | 51 | 761 | 83 | 46 | 808 | | | | 743 |
| | 5618 | 79 | 51 | 669 | 81 | 52 | 754 | 83 | 47 | 818 | 85 | 45 | 914 | 789 |
| 2 | 91G | 70 | 54 | 938 | 72 | 42 | 897 | | | | | | | 918 |
| 13-May | OR 54 | 71 | 80 | 871 | 72 | 71 | 948 | 74 | 48 | 1015 | | | | 945 |
| | 5630 | 70 | 76 | 1031 | 72 | 63 | 1030 | | | | | | | 1031 |
| | 5635 | 71 | 85 | 1082 | 72 | 75 | 1029 | 74 | 54 | 1002 | | | | 1038 |
| | 5669 | 71 | 75 | 1060 | 73 | 53 | 1052 | | | | | | | 1056 |
| | 5618 | 71 | 64 | 940 | 73 | 47 | 863 | | | | | | | 902 |
| | 5705 | 71 | 62 | 920 | 73 | 48 | 838 | | | | | | | 879 |
| | 5706 | 71 | 69 | 887 | 73 | 43 | 794 | | | | | | | 841 |
| | 5996 | 70 | 63 | 821 | 72 | 47 | 798 | | | | | | | 810 |
| | 5699 | 70 | 70 | 1066 | 72 | 55 | 908 | | | | | | | 987 |
| | 5792 | 70 | 61 | 899 | 72 | 47 | 769 | | | | | | | 834 |
| | 6094 | 71 | 64 | 940 | 72 | 57 | 968 | | | | | | | 954 |
| | 6178 | 71 | 62 | 791 | 73 | 47 | 514 | | | | | | | 653 |
| | OSU PC | 71 | 61 | 732 | 73 | 39 | 798 | | | | | | | 765 |
| 3 | 91G | 62 | 55 | 883 | 64 | 52 | 892 | 66 | 28 | 745 | | | | 840 |
| 25-Jun | OR 54 | 65 | 46 | 1000 | 66 | 51 | 1102 | | | | | | | 1051 |
| | 5630 | 62 | 87 | 921 | 65 | 64 | 943 | 66 | 61 | 964 | | | | 943 |
| | 5635 | 65 | 59 | 1090 | 66 | 51 | 998 | | | | | | | 1044 |
| | 5669 | 62 | 65 | 1007 | 64 | 55 | 951 | 66 | 38 | 939 | | | | 966 |
| | 5618 | 62 | 76 | 637 | 64 | 60 | 793 | 66 | 46 | 799 | | | | 743 |
| | 5706 | 64 | 58 | 910 | 65 | 48 | 906 | 66 | 41 | 877 | | | | 898 |
| | 5996 | 62 | 70 | 751 | 64 | 64 | 702 | 66 | 39 | 675 | | | | 709 |
| | 5643 | 62 | 83 | 1069 | 65 | 58 | 1080 | 66 | 53 | 1009 | | | | 1053 |
| | 5699 | 62 | 58 | 900 | 64 | 53 | 917 | 66 | 35 | 841 | | | | 886 |
| | 6002 | 63 | 78 | 822 | 65 | 59 | 868 | | | | | | | 845 |
| | 6094 | 65 | 48 | 984 | 66 | 49 | 905 | | | | | | | 945 |

[z]Dollar values were calculated using the weight of graded beans, based on a value of $121 for 1-4 sieve pods; $45 for 5 and 6 sieve pods. Values will be lower than those reported in Table 6 because some beans are lost in the grading process.

[y]Average $/acre is a rough estimate because of non-uniform number of harvests included.

**Table 5. Statistical comparison of yields of standard OSU bean lines, Corvallis, 2002.[z]**

| | Line | Trial 1 | Trial 2 | Trial 3 | Comm. Trial | Average Trials 2 & 3 | Average Trials 1,2 & 3 | Average Tri-als 1-4 |
|---|---|---|---|---|---|---|---|---|
| T/A | 91G | 10.2 | 12.0 | 11.4 | 8.1 | 11.7 | 11.2 | 10.4 |
| adj. 50% | OR 54 | 13.7 | 12.7 | 13.9 | 8.9 | 13.3 | 13.4 | 12.3 |
| | 5630 | 11.3 | 13.0 | 12.2 | 10.2 | 12.6 | 12.2 | 11.7 |
| | 5635 | 12.2 | 12.5 | 13.7 | | 13.1 | 12.8 | |
| | 5669 | 9.7 | 12.9 | 12.1 | 8.7 | 12.5 | 11.6 | 10.9 |
| | 5618 | 9.7 | 10.7 | 10.0 | | 10.4 | 10.1 | |
| | 5705 | | 10.4 | | | | | |
| | 5706 | | 10.2 | 11.6 | | 10.9 | | |
| | 5996 | | 10.2 | 8.5 | | 9.4 | | |
| | 5699 | | 11.6 | 11.5 | | 11.6 | | |
| | 5792 | | 11.4 | | | | | |
| | 6094 | | 12.4 | 12.4 | | 12.4 | | |
| | 6178 | | 9.3 | | | | | |
| | 6002 | | | 11.0 | | | | |
| | 5643 | | | 12.6 | | | | |
| | OSU PC | | 10.0 | | | | | |
| | LSD @ 5% | 2.9 | 2.9 | 2.6 | 1.1 | 1.9 | 1.4 | 1.5 |
| T/A | 91G | 9.3 | 11.0 | 10.1 | 7.9 | 10.6 | 10.1 | 9.6 |
| adj.60% | OR 54 | 10.7 | 10.9 | 12.7 | 8.8 | 11.8 | 11.4 | 10.8 |
| | 5630 | 11.0 | 11.8 | 11.0 | 9.3 | 11.4 | 11.3 | 10.8 |
| | 5635 | 11.1 | 11.8 | 12.4 | | 12.1 | 11.8 | |
| | 5669 | 8.0 | 12.6 | 11.4 | 8.4 | 12.0 | 10.7 | 10.1 |
| | 5618 | 8.9 | 11.1 | 9.4 | | 10.3 | 9.8 | |
| | 5705 | | 10.5 | | | | | |
| | 5706 | | 10.3 | 10.4 | | 10.4 | | |
| | 5996 | | 9.6 | 8.7 | | 9.2 | | |
| | 5699 | | 10.6 | 9.8 | | 10.2 | | |
| | 5792 | | 10.3 | | | | | |
| | 6094 | | 11.2 | 11.4 | | 11.3 | | |
| | 6178 | | 8.4 | | | | | |
| | 6002 | | | 10.1 | | | | |
| | 5643 | | | 13.1 | | | | |
| | OSU PC | | 8.3 | | | | | |
| | LSD @ 5% | 2.4 | 2.7 | 3.3 | NS | 2.2 | 1.8 | NS |

[z]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 1-3 and Table 11. Yields are based on field yields of 1-6 sieve beans.

**Table 6. Statistical comparison of dollar value of standard OSU bean lines, Corvallis, 2002.[z]**

| | Line | Trial 1 | Trial 2 | Trial 3 | Comm. Trial | Average Trials 2 & 3 | Average Trials 1,2 & 3 | Average Trials 1-4 |
|---|---|---|---|---|---|---|---|---|
| $/A | 91G | 843 | 990 | 944 | 670 | 967 | 926 | 862 |
| adj. 50% | OR 54 | 1132 | 1054 | 1150 | 732 | 1102 | 1112 | 1017 |
| | 5630 | 938 | 1062 | 1003 | 839 | 1033 | 1001 | 961 |
| | 5635 | 1003 | 1040 | 1121 | | 1081 | 1055 | |
| | 5669 | 808 | 1070 | 1004 | 720 | 1037 | 961 | 901 |
| | 5618 | 798 | 895 | 830 | | 863 | 841 | |
| | 5705 | | 866 | | | | | |
| | 5706 | | 855 | 963 | | 909 | | |
| | 5996 | | 851 | 714 | | 783 | | |
| | 5699 | | 961 | 954 | | 958 | | |
| | 5792 | | 938 | | | | | |
| | 6094 | | 1022 | 1030 | | 1026 | | |
| | 6178 | | 763 | | | | | |
| | 6002 | | | 911 | | | | |
| | 5643 | | | 1042 | | | | |
| | OSU PC | | 833 | | | | | |
| | LSD @ 5% | 235 | 236 | 217 | 91 | 170 | 113 | 119 |
| $/A | 91G | 843 | 990 | 920 | 716 | 955 | 918 | 867 |
| adj. 60% | OR 54 | 974 | 987 | 1150 | 799 | 1069 | 1037 | 978 |
| | 5630 | 1007 | 1085 | 1030 | 839 | 1058 | 1041 | 990 |
| | 5635 | 1003 | 1069 | 1121 | | 1095 | 1064 | |
| | 5669 | 724 | 1144 | 1028 | 762 | 1086 | 965 | 915 |
| | 5618 | 798 | 1009 | 853 | | 931 | 887 | |
| | 5705 | | 952 | | | | | |
| | 5706 | | 929 | 944 | | 937 | | |
| | 5996 | | 873 | 783 | | 828 | | |
| | 5699 | | 961 | 889 | | 925 | | |
| | 5792 | | 938 | | | | | |
| | 6094 | | 1017 | 1030 | | 1024 | | |
| | 6178 | | 763 | | | | | |
| | 6002 | | | 911 | | | | |
| | 5643 | | | 1192 | | | | |
| | OSU PC | | 748 | | | | | |
| | LSD @ 5% | 215 | 247 | 300 | NS | 197 | 139 | NS |

[z]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 1-3 and Table 11. Yields are based on field yields of 1-6 sieve beans.

**Table 7. Performance of advanced small sieve green bean lines, April 25 Planting, Corvallis, 2002.**

| Line | AV Stand | Days | Percent Sieve Size[z] | | | | | | Tons/Acre Sieve Size | | | | | | Graded Total[y] | $/Acre[x] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | | |
| 5613 | 140 | 79 | 24 | 28 | 47 | 2 | 0 | 0 | 1.31 | 1.52 | 2.57 | 0.09 | 0.00 | 0.00 | 5.48 | 488 |
| | | 81 | 15 | 27 | 53 | 5 | 0 | 0 | 1.00 | 1.83 | 3.61 | 0.35 | 0.00 | 0.00 | 6.79* | 604 |
| | | 83 | 8 | 24 | 57 | 11 | 0 | 0 | 0.65 | 1.96 | 4.70 | 0.87 | 0.00 | 0.00 | 8.18 | 728 |
| 5835 | 140 | 79 | 10 | 13 | 17 | 33 | 27 | 1 | 0.83 | 1.09 | 1.44 | 2.83 | 2.31 | 0.04 | 8.53* | 682 |
| | | 81 | 8 | 9 | 12 | 25 | 39 | 8 | 0.78 | 0.96 | 1.22 | 2.57 | 4.05 | 0.78 | 10.35 | 714 |
| | | 83 | 6 | 6 | 12 | 30 | 35 | 10 | 0.65 | 0.65 | 1.17 | 3.09 | 3.57 | 1.00 | 10.14 | 708 |
| 5944 | 128 | 79 | 6 | 18 | 57 | 19 | 0 | 0 | 0.39 | 1.09 | 3.48 | 1.13 | 0.00 | 0.00 | 6.09* | 542 |
| | | 81 | 7 | 20 | 46 | 27 | 0 | 0 | 0.57 | 1.57 | 3.52 | 2.04 | 0.00 | 0.00 | 7.70 | 685 |
| | | 83 | 4 | 13 | 41 | 40 | 0 | 0 | 0.39 | 1.22 | 3.78 | 3.70 | 0.04 | 0.00 | 9.14 | 812 |
| Minuette | 118 | 79 | 7 | 13 | 41 | 39 | 0 | 0 | 0.44 | 0.74 | 2.39 | 2.26 | 0.00 | 0.00 | 5.83 | 560 |
| | | 81 | 7 | 8 | 34 | 50 | 1 | 0 | 0.48 | 0.57 | 2.31 | 3.39 | 0.04 | 0.00 | 6.79* | 649 |
| | | 83 | 4 | 5 | 20 | 67 | 4 | 0 | 0.30 | 0.39 | 1.57 | 5.22 | 0.30 | 0.00 | 7.79 | 730 |

[z]Percent calculated as % of total of 1-6 sieve beans.

[y]Total weight of 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. Analysis of variance (Table 10) was calculated using the harvest marked with *.

[x]$/acre based on $96/ton (1-4 sieve); $38/ton (5-6 sieve) for intermediate sieve beans (5635, Minuette), and $89/ton (1-4 sieve); $75/ton (5-6 sieve) for small sieve beans (5613, 5944).

**Table 8. Performance of preliminary small sieve green bean lines, May 13 planting, Corvallis, 2002.**

| Line | AV Stand | Days | Percent Sieve Size[z] | | | | | | Tons/Acre Sieve Size | | | | | | Graded Total[y] | $/Acre[x] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | | |
| 5613 | 140 | 70 | 15 | 29 | 47 | 9 | 0 | 0 | 1.09 | 2.04 | 3.31 | 0.61 | 0.00 | 0.00 | 7.05* | 627 |
| | | 72 | 6 | 16 | 59 | 18 | 1 | 0 | 0.52 | 1.48 | 5.35 | 1.61 | 0.04 | 0.00 | 9.00 | 801 |
| 5835 | 132 | 70 | 6 | 11 | 26 | 44 | 12 | 0 | 0.57 | 0.96 | 2.39 | 4.00 | 1.09 | 0.04 | 9.05* | 803 |
| | | 72 | 4 | 6 | 14 | 52 | 23 | 0 | 0.39 | 0.57 | 1.31 | 4.74 | 2.09 | 0.00 | 9.09 | 752 |
| 5842 | 139 | 67 | 4 | 8 | 19 | 46 | 22 | 0 | 0.35 | 0.74 | 1.70 | 4.13 | 1.96 | 0.04 | 8.92* | 740 |
| | | 70 | 3 | 6 | 15 | 46 | 30 | 0 | 0.30 | 0.52 | 1.31 | 4.09 | 2.70 | 0.04 | 8.96 | 701 |
| 5902 | 139 | 70 | 5 | 14 | 53 | 28 | 1 | 0 | 0.35 | 1.09 | 4.09 | 2.13 | 0.04 | 0.00 | 7.70* | 737 |
| | | 72 | 3 | 9 | 44 | 42 | 3 | 0 | 0.26 | 0.74 | 3.74 | 3.52 | 0.22 | 0.00 | 8.48 | 802 |
| 5944 | 116 | 67 | 9 | 26 | 53 | 13 | 0 | 0 | 0.52 | 1.48 | 3.05 | 0.74 | 0.00 | 0.00 | 5.79 | 515 |
| | | 70 | 5 | 15 | 46 | 34 | 0 | 0 | 0.30 | 1.00 | 3.00 | 2.18 | 0.00 | 0.00 | 6.48* | 577 |
| | | 72 | 4 | 9 | 34 | 52 | 1 | 0 | 0.26 | 0.70 | 2.52 | 3.83 | 0.04 | 0.00 | 7.35 | 652 |
| 5993 | 140 | 70 | 5 | 10 | 22 | 49 | 11 | 3 | 0.44 | 0.96 | 2.00 | 4.52 | 1.04 | 0.26 | 9.22* | 810 |
| | | 72 | 6 | 6 | 19 | 55 | 13 | 0 | 0.65 | 0.65 | 1.96 | 5.52 | 1.31 | 0.00 | 10.09 | 893 |
| 6100 | 140 | 71 | 7 | 15 | 45 | 31 | 1 | 0 | 0.57 | 1.22 | 3.57 | 2.48 | 0.04 | 0.00 | 7.87 | 753 |
| | | 73 | 3 | 8 | 37 | 50 | 1 | 0 | 0.30 | 0.78 | 3.44 | 4.65 | 0.09 | 0.00 | 9.27* | 884 |
| Minuette | 112 | 71 | 4 | 9 | 34 | 46 | 8 | 0 | 0.26 | 0.61 | 2.35 | 3.18 | 0.52 | 0.00 | 6.92* | 634 |
| | | 73 | 2 | 2 | 16 | 66 | 13 | 0 | 0.17 | 0.17 | 1.13 | 4.70 | 0.91 | 0.00 | 7.09 | 628 |
| Medinah | 112 | 71 | 23 | 77 | 0 | 0 | 0 | 0 | 1.00 | 3.31 | 0.00 | 0.00 | 0.00 | 0.00 | 4.31 | 383 |
| | | 72 | 12 | 49 | 38 | 2 | 0 | 0 | 0.65 | 2.70 | 2.09 | 0.09 | 0.00 | 0.00 | 5.52* | 492 |

[z]Percent calculated as % of total of 1-6 sieve beans.

[y]Total weight of 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. Analysis of variance (Table 10) was calculated using the harvest marked with *.

[x]$/acre based on $96/ton (1-4 sieve); $38/ton (5-6 sieve) for intermediate sieve beans (5835, 5842, 5902, 5993, 6100, Minuette), and $89/ton (1-4 sieve); $75/ton (5-6 sieve) for small sieve beans (5613, 5944, Medinah).

**Table 9. Performance of preliminary small sieve OSU green bean lines, June 25 planting, Corvallis, 2002.**

| Line | Av Stand | Days | Percent Sieve Size[z] | | | | | | Tons/Acre Sieve Size | | | | | | Graded Total[y] | $/Acre[x] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 | | |
| 5613 | 150 | 63 | 12 | 34 | 50 | 5 | 0 | 0 | 0.65 | 1.91 | 2.87 | 0.26 | 0.00 | 0.00 | 5.70 | 507 |
| | | 65 | 5 | 20 | 65 | 10 | 0 | 0 | 0.30 | 1.26 | 4.18 | 0.65 | 0.00 | 0.00 | 6.39* | 569 |
| | | 66 | 6 | 16 | 60 | 18 | 0 | 0 | 0.39 | 1.09 | 4.05 | 1.22 | 0.00 | 0.00 | 6.74 | 600 |
| 5778 | 150 | 63 | 3 | 45 | 44 | 7 | 0 | 0 | 0.13 | 1.91 | 1.87 | 0.30 | 0.00 | 0.00 | 4.22* | 376 |
| | | 65 | 3 | 29 | 57 | 11 | 0 | 0 | 0.13 | 1.48 | 2.87 | 0.57 | 0.00 | 0.00 | 5.05 | 449 |
| 5835 | 147 | 62 | 4 | 11 | 23 | 45 | 17 | 0 | 0.39 | 1.09 | 2.35 | 4.57 | 1.70 | 0.00 | 10.09* | 870 |
| | | 64 | 3 | 6 | 19 | 50 | 21 | 1 | 0.35 | 0.65 | 2.04 | 5.26 | 2.18 | 0.04 | 10.53 | 882 |
| 5842 | 150 | 60 | 4 | 10 | 22 | 44 | 19 | 2 | 0.44 | 1.00 | 2.31 | 4.65 | 2.00 | 0.17 | 10.57* | 889 |
| | | 62 | 3 | 6 | 18 | 42 | 29 | 3 | 0.26 | 0.65 | 1.91 | 4.44 | 3.05 | 0.26 | 10.57 | 823 |
| 5902 | 150 | 59 | 17 | 36 | 36 | 11 | 0 | 0 | 0.52 | 1.09 | 1.09 | 0.35 | 0.00 | 0.00 | 3.05 | 292 |
| | | 62 | 5 | 27 | 51 | 17 | 0 | 0 | 0.26 | 1.31 | 2.52 | 0.83 | 0.00 | 0.00 | 4.92* | 472 |
| | | 64 | 2 | 20 | 60 | 18 | 1 | 0 | 0.09 | 1.04 | 3.13 | 0.91 | 0.04 | 0.00 | 5.22 | 499 |
| 5944 | 142 | 62 | 7 | 45 | 35 | 13 | 1 | 0 | 0.30 | 1.96 | 1.52 | 0.57 | 0.04 | 0.00 | 4.39 | 390 |
| | | 64 | 4 | 33 | 47 | 15 | 1 | 0 | 0.17 | 1.52 | 2.18 | 0.70 | 0.04 | 0.00 | 4.61* | 410 |
| | | 66 | 4 | 13 | 47 | 35 | 1 | 0 | 0.26 | 0.78 | 2.83 | 2.09 | 0.04 | 0.00 | 6.00 | 534 |
| 5993 | 150 | 59 | 5 | 17 | 27 | 41 | 10 | 0 | 0.39 | 1.22 | 2.00 | 3.00 | 0.70 | 0.00 | 7.31 | 661 |
| | | 60 | 8 | 19 | 31 | 37 | 6 | 0 | 0.52 | 1.35 | 2.18 | 2.57 | 0.39 | 0.00 | 7.0* | 650 |
| | | 62 | 3 | 11 | 28 | 45 | 14 | 0 | 0.22 | 0.74 | 1.87 | 3.05 | 0.91 | 0.00 | 6.79 | 598 |
| 6100 | 150 | 65 | 6 | 11 | 39 | 42 | 3 | 0 | 0.44 | 0.83 | 2.87 | 3.09 | 0.22 | 0.00 | 7.44* | 701 |
| | | 66 | 6 | 10 | 46 | 36 | 2 | 0 | 0.44 | 0.74 | 3.35 | 2.61 | 0.17 | 0.00 | 7.31 | 691 |
| Minuette | 148 | 63 | 10 | 24 | 42 | 23 | 0 | 0 | 0.35 | 0.83 | 1.44 | 0.78 | 0.00 | 0.00 | 3.39 | 326 |
| | | 65 | 2 | 8 | 30 | 59 | 1 | 0 | 0.09 | 0.35 | 1.26 | 2.48 | 0.04 | 0.00 | 4.22* | 403 |
| | | 66 | 3 | 6 | 25 | 65 | 1 | 0 | 0.09 | 0.22 | 0.87 | 2.26 | 0.04 | 0.00 | 3.48 | 332 |
| Medinah | 135 | 64 | 7 | 56 | 36 | 1 | 0 | 0 | 0.22 | 1.83 | 1.17 | 0.04 | 0.00 | 0.00 | 3.26 | 290 |
| | | 66 | 5 | 30 | 60 | 5 | 0 | 0 | 0.17 | 1.09 | 2.18 | 0.17 | 0.00 | 0.00 | 3.61* | 321 |

[z]Percent calculated as % of total of 1-6 sieve beans.

[y]Total weight of 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. Analysis of variance (Table 10) was calculated using the harvest marked with *.

[x]$/acre based on $96/ton (1-4 sieve); $38/ton (5-6 sieve) for intermediate sieve beans (5835, 5842, 5902, 5993, 6100, Minuette), and $89/ton (1-4 sieve); $75/ton (5-6 sieve) for small sieve beans (5613, 5778, 5944, Medinah).

**Table 10. Statistical comparison of yields and dollar return of small sieve OSU green bean lines, Corvallis, 2002.[z]**

| Line | Trial 1 | Trial 2 | Trial 3 | Comm. Trial | Average Trials 2 & 3 | Average Trials 1,2 & 3 |
|---|---|---|---|---|---|---|
| | Tons/Acre | | | | | |
| 5613 | 7.2 | 7.5 | 6.7 | | 7.1 | 7.1 |
| 5778 | | | 4.6 | | | |
| 5835 | 9.2 | 9.2 | 10.7 | | 10.0 | 9.7 |
| 5842 | | 9.4 | 11.5 | | 10.5 | |
| 5902 | | 8.1 | 5.3 | | 6.7 | |
| 5944 | 6.5 | 7.0 | 5.0 | | 6.0 | 6.2 |
| 5993 | | 9.3 | 7.6 | | 8.5 | |
| 6100 | | 9.7 | 7.8 | | 8.8 | |
| Minuette | 7.0 | 7.1 | 4.5 | 5.3 | 5.8 | 6.2 |
| Medinah | | 5.8 | 4.0 | 5.6 | 4.9 | |
| LSD @ 5% | 0.8 | 1.5 | 3.1 | NS | 1.9 | 2.0 |
| | $/Acre | | | | | |
| 5613 | 639 | 666 | 600 | | 633 | 635 |
| 5778 | | | 407 | | | |
| 5835 | 734 | 818 | 919 | | 869 | 824 |
| 5842 | | 783 | 965 | | 874 | |
| 5902 | | 778 | 505 | | 642 | |
| 5944 | 573 | 619 | 441 | | 530 | 544 |
| 5993 | | 813 | 706 | | 760 | |
| 6100 | | 930 | 734 | | 832 | |
| Minuette | 674 | 654 | 432 | 507 | 543 | 587 |
| Medinah | | 515 | 352 | 499 | 434 | |
| LSD @ 5% | 74 | 140 | 271 | NS | 168 | 192 |

[z]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 overmature (marked with * on Tables 7, 8, 9 & 11). Yields are field yields of 1-6 sieve beans.

**Table 11. Performance of commercial green bean varieties, June 11 planting, Corvallis, 2002.**

| Variety | Source | AV Stand | Intended Use | Days | Percent Sieve Size[z] | | | | | | | Tons/Acre Sieve Size | | | | | | Graded Total[y] | $/Acre[x] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 1-4 | 1 | 2 | 3 | 4 | 5 | 6 | | |
| 91G | OSU | 140 | full sieve | 63 | 4 | 7 | 18 | 40 | 27 | 4 | 69 | 0.30 | 0.48 | 1.26 | 2.78 | 1.87 | 0.30 | 7.00 | 682 |
| | | | | 64 | 4 | 5 | 8 | 28 | 42 | 14 | 45 | 0.30 | 0.44 | 0.65 | 2.31 | 3.44 | 1.13 | 8.27* | 653 |
| | | | | 66 | 3 | 3 | 6 | 22 | 49 | 17 | 34 | 0.22 | 0.26 | 0.48 | 1.78 | 3.96 | 1.35 | 8.05 | 570 |
| OR 54 | OSU | 140 | full sieve | 65 | 4 | 8 | 14 | 39 | 31 | 3 | 65 | 0.35 | 0.65 | 1.13 | 3.22 | 2.57 | 0.26 | 8.18 | 775 |
| | | | | 66 | 2 | 6 | 11 | 35 | 38 | 9 | 53 | 0.13 | 0.48 | 0.87 | 2.83 | 3.13 | 0.74 | 8.18* | 695 |
| 5630 | OSU | 140 | full sieve | 65 | 2 | 3 | 9 | 45 | 39 | 2 | 60 | 0.22 | 0.30 | 0.78 | 4.05 | 3.44 | 0.13 | 8.92* | 808 |
| | | | | 67 | 3 | 3 | 4 | 38 | 51 | 3 | 47 | 0.22 | 0.22 | 0.30 | 3.18 | 4.26 | 0.22 | 8.40 | 675 |
| 5669 | OSU | 140 | full sieve | 64 | 3 | 6 | 14 | 41 | 33 | 3 | 64 | 0.22 | 0.48 | 1.09 | 3.26 | 2.57 | 0.26 | 7.87 | 738 |
| | | | | 66 | 2 | 4 | 9 | 37 | 41 | 6 | 52 | 0.17 | 0.35 | 0.74 | 3.00 | 3.35 | 0.52 | 8.13* | 690 |
| EX 08190504 | Seminis | 140 | full sieve | 64 | 2 | 5 | 12 | 53 | 27 | 1 | 72 | 0.13 | 0.30 | 0.65 | 2.96 | 1.52 | 0.04 | 5.61 | 560 |
| | | | | 66 | 3 | 2 | 7 | 36 | 42 | 11 | 47 | 0.17 | 0.13 | 0.48 | 2.39 | 2.83 | 0.74 | 6.74* | 545 |
| KSI 196 | Kimberly Seeds International | 140 | full sieve | 64 | 1 | 3 | 36 | 37 | 21 | 1 | 77 | 0.13 | 0.26 | 3.26 | 3.35 | 1.91 | 0.13 | 9.05 | 939 |
| | | | | 65 | 2 | 4 | 9 | 48 | 33 | 4 | 63 | 0.13 | 0.30 | 0.65 | 3.35 | 2.35 | 0.26 | 7.05 | 654 |
| | | | | 66 | 1 | 3 | 9 | 46 | 37 | 5 | 59 | 0.09 | 0.22 | 0.65 | 3.35 | 2.70 | 0.35 | 7.35* | 658 |
| Saurus | Brotherton | 140 | full sieve | 63 | 5 | 8 | 17 | 47 | 23 | 1 | 77 | 0.22 | 0.35 | 0.74 | 2.09 | 1.00 | 0.04 | 4.44 | 458 |
| | | | | 65 | 3 | 3 | 24 | 25 | 40 | 6 | 54 | 0.22 | 0.17 | 1.52 | 1.61 | 2.57 | 0.39 | 6.48* | 559 |
| | | | | 67 | 1 | 1 | 4 | 25 | 53 | 17 | 30 | 0.04 | 0.04 | 0.22 | 1.52 | 3.18 | 1.00 | 6.00 | 409 |
| Tyro | Brotherton | 131 | full sieve | 64 | 4 | 4 | 11 | 33 | 39 | 9 | 53 | 0.17 | 0.22 | 0.57 | 1.65 | 1.91 | 0.44 | 4.96* | 422 |
| | | | | 66 | 2 | 2 | 7 | 25 | 47 | 18 | 35 | 0.09 | 0.13 | 0.39 | 1.44 | 2.70 | 1.04 | 5.79 | 416 |
| Formost | Brotherton | 140 | full sieve | 62 | 3 | 4 | 5 | 19 | 42 | 28 | 30 | 0.26 | 0.30 | 0.39 | 1.65 | 3.61 | 2.39 | 8.61* | 586 |
| | | | | 64 | 3 | 2 | 3 | 12 | 40 | 41 | 20 | 0.26 | 0.13 | 0.30 | 1.04 | 3.52 | 3.61 | 8.87 | 532 |
| 883 | Brotherton | 140 | full sieve | 63 | 5 | 6 | 15 | 44 | 27 | 5 | 69 | 0.26 | 0.35 | 0.83 | 2.48 | 1.52 | 0.26 | 5.70 | 554 |
| | | | | 64 | 4 | 4 | 9 | 33 | 38 | 13 | 49 | 0.22 | 0.22 | 0.57 | 2.04 | 2.31 | 0.83 | 6.18* | 509 |
| | | | | 66 | 3 | 3 | 7 | 28 | 46 | 13 | 40 | 0.17 | 0.22 | 0.44 | 1.83 | 3.05 | 0.87 | 6.57 | 497 |
| SB 4247 | Rogers | 140 | full sieve | 64 | 4 | 9 | 16 | 36 | 31 | 4 | 65 | 0.22 | 0.57 | 1.00 | 2.18 | 1.87 | 0.26 | 6.09 | 575 |
| | | | | 65 | 3 | 6 | 10 | 30 | 41 | 10 | 49 | 0.22 | 0.44 | 0.74 | 2.22 | 3.00 | 0.74 | 7.35* | 605 |
| | | | | 66 | 3 | 5 | 8 | 28 | 46 | 10 | 44 | 0.22 | 0.39 | 0.70 | 2.35 | 3.83 | 0.87 | 8.35 | 654 |
| SB 4249 | Rogers | 140 | full sieve | 63 | 4 | 7 | 14 | 34 | 36 | 5 | 59 | 0.35 | 0.57 | 1.17 | 2.91 | 3.09 | 0.39 | 8.48 | 762 |
| | | | | 64 | 4 | 4 | 10 | 30 | 37 | 15 | 48 | 0.39 | 0.44 | 1.00 | 2.91 | 3.61 | 1.44 | 9.79* | 801 |
| | | | | 66 | 2 | 3 | 7 | 24 | 45 | 20 | 35 | 0.17 | 0.30 | 0.70 | 2.48 | 4.70 | 2.09 | 10.44 | 748 |

**Table 11. Performance of commercial green bean varieties, June 11 planting, Corvallis, 2002 (cont.).**

| Variety | Source | | Intended Use | Days | Percent Sieve Size[z] | | | | | | | Tons/Acre Sieve Size | | | | | | Graded Total[y] | $/Acre[x] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 1-4 | 1 | 2 | 3 | 4 | 5 | 6 | | |
| Minuette | Harris Moran | 139 | 4 sieve | 64 | 7 | 17 | 48 | 27 | 1 | 0 | 99 | 0.30 | 0.74 | 2.04 | 1.17 | 0.04 | 0.00 | 4.31 | 411 |
| | | | | 65 | 6 | 13 | 41 | 40 | 1 | 0 | 99 | 0.30 | 0.65 | 2.04 | 2.00 | 0.04 | 0.00 | 5.05* | 482 |
| | | | | 66 | 6 | 8 | 37 | 48 | 1 | 0 | 99 | 0.30 | 0.44 | 1.91 | 2.48 | 0.04 | 0.00 | 5.18 | 494 |
| SV 08110608 | Seminis | 140 | 4 sieve | 62 | 7 | 15 | 33 | 37 | 7 | 1 | 92 | 0.26 | 0.57 | 1.22 | 1.39 | 0.26 | 0.04 | 3.74 | 341 |
| | | | | 64 | 5 | 6 | 16 | 53 | 19 | 1 | 80 | 0.22 | 0.26 | 0.65 | 2.18 | 0.78 | 0.04 | 4.13* | 349 |
| | | | | 65 | 4 | 5 | 9 | 45 | 36 | 1 | 63 | 0.17 | 0.22 | 0.44 | 2.09 | 1.70 | 0.04 | 4.65 | 346 |
| Warrior | Seminis | 140 | 4 sieve | 62 | 18 | 25 | 33 | 23 | 1 | 0 | 99 | 0.30 | 0.74 | 3.57 | 1.65 | 0.00 | 0.00 | 3.61 | 344 |
| | | | | 64 | 9 | 15 | 33 | 41 | 1 | 0 | 99 | 0.30 | 0.57 | 3.05 | 2.48 | 0.00 | 0.00 | 4.31 | 411 |
| | | | | 66 | 6 | 14 | 33 | 41 | 6 | 1 | 93 | 0.22 | 0.48 | 2.83 | 2.48 | 0.00 | 0.00 | 4.61* | 425 |
| Eureka | Seminis | 140 | 4 sieve | 64 | 5 | 20 | 48 | 27 | 0 | 0 | 100 | 0.26 | 1.04 | 2.52 | 1.44 | 0.00 | 0.00 | 5.26 | 505 |
| | | | | 66 | 5 | 12 | 32 | 49 | 2 | 0 | 98 | 0.30 | 0.74 | 1.96 | 3.00 | 0.13 | 0.00 | 6.13* | 581 |
| SB 4087 | Rogers | 140 | 4 sieve | 63 | 3 | 12 | 48 | 37 | 0 | 0 | 100 | 0.22 | 0.83 | 3.26 | 2.57 | 0.00 | 0.00 | 6.87 | 660 |
| | | | | 65 | 3 | 8 | 25 | 62 | 3 | 0 | 97 | 0.22 | 0.61 | 1.91 | 4.74 | 0.22 | 0.00 | 7.70* | 727 |
| | | | | 67 | 2 | 6 | 26 | 60 | 6 | 0 | 94 | 0.13 | 0.48 | 2.00 | 4.57 | 0.48 | 0.00 | 7.66 | 707 |
| Charon | Rogers | 140 | 4 sieve | 63 | 7 | 15 | 41 | 36 | 1 | 0 | 99 | 0.30 | 0.65 | 1.78 | 1.57 | 0.04 | 0.00 | 4.35 | 415 |
| | | | | 65 | 4 | 9 | 23 | 52 | 12 | 0 | 88 | 0.22 | 0.48 | 1.22 | 2.74 | 0.65 | 0.00 | 5.31* | 472 |
| | | | | 66 | 4 | 7 | 20 | 54 | 15 | 0 | 86 | 0.26 | 0.39 | 1.22 | 3.26 | 0.87 | 0.00 | 6.00 | 526 |
| Rambo | Brotherton | 140 | 4 sieve | 62 | 3 | 6 | 12 | 34 | 38 | 6 | 56 | 0.22 | 0.39 | 0.78 | 2.13 | 2.39 | 0.39 | 6.31* | 444 |
| | | | | 64 | 3 | 5 | 8 | 20 | 40 | 24 | 36 | 0.22 | 0.35 | 0.52 | 1.35 | 2.70 | 1.61 | 6.74 | 398 |
| EX 08190505 | Seminis | 140 | 3 sieve | 64 | 5 | 12 | 57 | 26 | 0 | 0 | 100 | 0.30 | 0.74 | 3.57 | 1.65 | 0.00 | 0.00 | 6.26* | 557 |
| | | | | 65 | 5 | 9 | 48 | 39 | 0 | 0 | 100 | 0.30 | 0.57 | 3.05 | 2.48 | 0.00 | 0.00 | 6.39 | 569 |
| | | | | 67 | 4 | 8 | 47 | 41 | 0 | 0 | 100 | 0.22 | 0.48 | 2.83 | 2.48 | 0.00 | 0.00 | 6.00 | 534 |
| Medinah | Rogers | 140 | 3 sieve | 65 | 5 | 42 | 53 | 1 | 0 | 0 | 100 | 0.26 | 2.26 | 2.87 | 0.04 | 0.00 | 0.00 | 5.44* | 484 |
| | | | | 66 | 4 | 31 | 64 | 2 | 0 | 0 | 100 | 0.22 | 1.70 | 3.52 | 0.09 | 0.00 | 0.00 | 5.52 | 492 |

[z]Percent calculated as % of total of 1-6 sieve beans.

[y]Total weight of the graded beans, including sieve sizes 1-6. Values will be lower than those reported in Table 12 because some beans are lost in the grading process.

[x]$/acre based on $121/ton for 1-4 sieve and $45/ton for 5-6 sieve for full sieve beans; $96/ton for 1-4 sieve and $38/ton for 5-6 sieve for 4 sieve beans; and $89/ton for 1-4 sieve and $75/ton for 5-6 sieve for 3 sieve beans.

**Table 12. Statistical comparison of yields and dollar return of commercial green bean lines, Corvallis, 2002[z].**

| Line | Intended Use | T/A Unadjusted | T/A Adjusted[y] | $/A |
|---|---|---|---|---|
| 91G | full sieve | 8.5 | 8.1 | 670 |
| OR 54 | full sieve | 8.6 | 8.9 | 732 |
| 5630 | full sieve | 9.3 | 10.2 | 840 |
| 5669 | full sieve | 8.5 | 8.7 | 720 |
| EX 08190504 | full sieve | 7.1 | 6.9 | 576 |
| KSI 196 | full sieve | 8.0 | 8.7 | 713 |
| Saurus | full sieve | 5.9 | 6.2 | 511 |
| Tyro | full sieve | 5.4 | 5.5 | 455 |
| Formost | full sieve | 9.0 | 7.2 | 616 |
| 883 | full sieve | 6.7 | 6.6 | 552 |
| SB 4247 | full sieve | 7.9 | 7.8 | 648 |
| SB 4249 | full sieve | 10.4 | 10.2 | 854 |
| Minuette | 4 sieve | 5.3 | 5.3 | 507 |
| SV 08110608 | 4 sieve | 4.4 | 4.4 | 374 |
| Warrior | 4 sieve | 5.0 | 5.0 | 461 |
| Eureka | 4 sieve | 6.7 | 6.7 | 635 |
| SB 4087 | 4 sieve | 8.2 | 8.2 | 776 |
| Charon | 4 sieve | 5.6 | 5.6 | 495 |
| Rambo | 4 sieve | 6.9 | 6.9 | 484 |
| EX 08190505 | 3 sieve | 6.7 | 6.7 | 596 |
| Medinah | 3 sieve | 5.6 | 5.6 | 499 |
| SB 4251 | small sieve romano | 7.0 | 7.0 | |
| SB 4266 | romano | 8.4 | 8.4 | |
| EX 08190506 | wax romano | 8.6 | 8.6 | |
| LSD @5% | | 1.6 | 1.6 | 134 |

[z]Based on one selected harvest for each variety (marked with * on Table 11), 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.

[y]Full sieve beans were adjusted to 50% 1-4 sieve; all others were unadjusted.

**Table 13. Performance of Minuette x OSU 5630 recombinant inbred lines, May 31 planting, Corvallis, 2002.[z]**

| Line | AV Stand | Days to Harvest | Est. sieve size | Percent Sieve Size[y] | | | | | | %1-4 sieve | Av tons/acre |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 | 4 | 5 | 6 | | |
| R13-1 | 140 | 70 | 4 | 8 | 6 | 46 | 39 | 1 | 0 | 99 | 12.7 |
| R13-2 | 135 | 63 | 4 | 3 | 4 | 21 | 71 | 1 | 0 | 99 | 7.0 |
| R13-3 | 140 | 67 | full | 10 | 7 | 10 | 28 | 33 | 13 | 54 | 12.6 |
| R13-4 | 140 | 66 | full | 4 | 6 | 10 | 23 | 39 | 18 | 43 | 14.4 |
| R13-5 | 140 | 68 | 4 | 2 | 3 | 17 | 72 | 5 | 0 | 95 | 12.2 |
| R13-6 | 140 | 66 | 4 | 4 | 6 | 20 | 68 | 3 | 0 | 97 | 9.9 |
| R13-7 | 140 | 63 | 4 | 2 | 7 | 26 | 63 | 2 | 0 | 98 | 8.6 |
| R13-8 | 129 | 68 | full | 4 | 4 | 10 | 28 | 32 | 21 | 46 | 9.4 |
| R13-9 | 138 | 67 | full | 5 | 7 | 11 | 25 | 26 | 27 | 48 | 12.0 |
| R13-10 | 140 | 66 | 3 | 4 | 9 | 57 | 29 | 1 | 0 | 99 | 10.6 |
| R13-11 | 140 | 67 | 4 | 3 | 7 | 26 | 54 | 11 | 0 | 89 | 11.9 |
| R13-12 | 140 | 70 | full | 2 | 4 | 12 | 47 | 34 | 1 | 65 | 12.4 |
| R13-13 | 140 | 63 | 3 | 4 | 8 | 61 | 27 | 0 | 0 | 100 | 9.9 |
| R13-14 | 140 | 68 | 4 | 2 | 5 | 12 | 60 | 21 | 0 | 79 | 13.2 |
| R13-15 | 140 | 67 | 4 | 4 | 4 | 15 | 54 | 22 | 1 | 77 | 11.8 |
| R13-16 | 140 | 67 | 4 | 2 | 3 | 9 | 48 | 34 | 4 | 62 | 11.4 |
| R13-17 | 140 | 66 | full | 10 | 10 | 8 | 23 | 32 | 18 | 50 | 12.4 |
| R13-18 | 140 | 67 | 4 | 7 | 6 | 23 | 61 | 3 | 0 | 97 | 12.3 |
| R13-19 | 140 | 66 | full | 5 | 6 | 10 | 31 | 39 | 9 | 52 | 10.3 |
| R13-20 | 140 | 67 | full | 6 | 5 | 11 | 36 | 34 | 9 | 57 | 9.8 |
| R13-21 | 140 | 63 | full | 3 | 7 | 11 | 29 | 37 | 13 | 50 | 10.6 |
| R13-22 | 140 | 68 | 3 | 6 | 14 | 56 | 24 | 0 | 0 | 100 | 11.0 |
| R13-23 | 140 | 68 | full | 5 | 4 | 5 | 22 | 43 | 22 | 36 | 13.4 |
| R13-24 | 140 | 63 | 3 | 1 | 6 | 37 | 55 | 1 | 0 | 99 | 9.0 |
| R13-25 | 140 | 63 | 3 | 2 | 34 | 59 | 5 | 0 | 0 | 100 | 8.6 |
| R13-26 | 140 | 66 | full | 4 | 5 | 8 | 28 | 36 | 18 | 46 | 11.8 |
| R13-27 | 140 | 67 | full | 1 | 2 | 8 | 28 | 48 | 12 | 40 | 11.8 |
| R13-28 | 140 | 66 | 3 | 5 | 8 | 41 | 44 | 2 | 0 | 98 | 11.7 |
| R13-29 | 140 | 68 | 4 | 2 | 4 | 22 | 67 | 5 | 0 | 95 | 11.2 |
| R13-30 | 140 | 66 | 4 | 3 | 5 | 19 | 64 | 9 | 0 | 91 | 9.0 |
| R13-31 | 140 | 67 | 4-5 | 2 | 2 | 6 | 53 | 38 | 0 | 62 | 12.4 |
| R13-32 | 140 | 69 | 4 | 5 | 8 | 21 | 45 | 20 | 2 | 78 | 11.7 |
| R13-33 | 140 | 68 | 4 | 3 | 4 | 20 | 69 | 4 | 0 | 96 | 10.3 |
| R13-34 | 140 | 66 | 4 | 6 | 6 | 18 | 53 | 17 | 1 | 82 | 12.4 |
| R13-35 | 140 | 66 | 4 | 3 | 6 | 37 | 53 | 1 | 0 | 99 | 11.1 |
| R13-36 | 140 | 70 | 3 | 3 | 25 | 61 | 10 | 0 | 0 | 100 | 10.5 |
| R13-37 | 140 | 68 | 3 | 8 | 20 | 58 | 14 | 0 | 0 | 100 | 10.3 |
| R13-38 | 140 | 67 | 4 | 4 | 8 | 31 | 55 | 1 | 0 | 99 | 10.6 |
| R13-39 | 140 | 67 | full | 2 | 3 | 13 | 44 | 33 | 6 | 61 | 9.7 |
| R13-40 | 140 | 69 | 4 | 6 | 5 | 12 | 44 | 31 | 3 | 66 | 13.6 |
| R13-41 | 140 | 68 | 4 | 3 | 8 | 28 | 60 | 2 | 0 | 98 | 11.0 |
| R13-42 | 140 | 69 | 4 | 7 | 14 | 39 | 37 | 4 | 0 | 96 | 13.1 |
| R13-43 | 140 | 67 | full | 9 | 7 | 11 | 23 | 32 | 18 | 50 | 12.1 |
| R13-44 | 140 | 63 | 3 | 5 | 27 | 55 | 12 | 0 | 0 | 100 | 7.0 |
| R13-45 | 139 | 67 | full | 4 | 8 | 19 | 42 | 24 | 2 | 73 | 12.2 |

**Table 13. Performance of Minuette x OSU 5630 recombinant inbred lines, June 1 planting, Corvallis, 2001 (cont).[z]**

| Line | AV Stand | Days to Harvest | Est. sieve size | Percent Sieve Size[y] 1 | 2 | 3 | 4 | 5 | 6 | %1-4 sieve | Av tons/acre |
|---|---|---|---|---|---|---|---|---|---|---|---|
| R13-46 | 140 | 63 | 3 | 4 | 14 | 64 | 19 | 0 | 0 | 100 | 11.4 |
| R13-47 | 140 | 68 | full | 3 | 4 | 12 | 55 | 23 | 3 | 74 | 12.6 |
| R13-48 | 140 | 67 | 4 | 3 | 5 | 25 | 62 | 5 | 0 | 95 | 10.6 |
| R13-49 | 140 | 68 | full | 4 | 6 | 16 | 34 | 30 | 10 | 60 | 12.0 |
| R13-50 | 137 | 67 | 4-5 | 5 | 13 | 14 | 39 | 27 | 1 | 71 | 8.2 |
| R13-51 | 137 | 66 | full | 5 | 7 | 9 | 16 | 29 | 34 | 37 | 12.5 |
| R13-52 | 140 | 68 | 4 | 6 | 10 | 22 | 53 | 8 | 0 | 92 | 8.4 |
| R13-53 | 140 | 67 | 3 | 1 | 8 | 44 | 47 | 0 | 0 | 100 | 10.8 |
| R13-54 | 140 | 67 | 4 | 6 | 9 | 33 | 39 | 13 | 1 | 87 | 14.3 |
| R13-55 | 140 | 69 | 4 | 4 | 9 | 30 | 50 | 7 | 0 | 93 | 9.8 |
| R13-56 | 140 | 69 | 3 | 4 | 11 | 52 | 33 | 0 | 0 | 100 | 11.6 |
| R13-57 | 140 | 68 | 4 | 5 | 11 | 26 | 43 | 16 | 0 | 84 | 12.0 |
| R13-58 | 140 | 69 | 3 | 7 | 20 | 61 | 11 | 0 | 0 | 100 | 11.2 |
| R13-59 | 140 | 67 | full | 2 | 5 | 12 | 25 | 35 | 21 | 44 | 10.1 |
| R13-60 | 140 | 66 | 4 | 3 | 13 | 18 | 53 | 13 | 0 | 88 | 10.8 |
| R13-61 | 140 | 68 | 5 | 4 | 4 | 12 | 50 | 28 | 1 | 71 | 10.9 |
| R13-62 | 140 | 63 | 3 | 3 | 11 | 43 | 43 | 0 | 0 | 100 | 8.5 |
| R13-63 | 140 | 69 | 4 | 3 | 4 | 17 | 59 | 16 | 0 | 84 | 14.1 |
| R13-64 | 140 | 66 | 4 | 2 | 7 | 34 | 57 | 1 | 0 | 99 | 9.8 |
| R13-65 | 140 | 68 | full | 6 | 5 | 7 | 15 | 27 | 40 | 33 | 13.9 |
| R13-66 | 140 | 63 | 3 | 4 | 31 | 61 | 5 | 0 | 0 | 100 | 9.9 |
| R13-67 | 140 | 67 | 4 | 4 | 4 | 17 | 62 | 12 | 1 | 86 | 12.7 |
| R13-68 | 140 | 63 | 4 | 3 | 8 | 33 | 55 | 1 | 0 | 99 | 8.7 |
| R13-69 | 140 | 67 | 4 | 3 | 3 | 26 | 67 | 2 | 0 | 98 | 9.7 |
| R13-70 | 140 | 68 | 4 | 3 | 4 | 21 | 71 | 1 | 0 | 99 | 11.1 |
| R13-71 | 140 | 67 | 3 | 2 | 10 | 51 | 36 | 0 | 0 | 100 | 11.6 |
| R13-72 | 140 | 66 | full | 6 | 5 | 6 | 21 | 34 | 28 | 38 | 13.2 |
| R13-73 | 140 | 66 | 4 | 4 | 5 | 24 | 64 | 3 | 0 | 97 | 10.8 |
| R13-74 | 140 | 63 | 3 | 1 | 7 | 42 | 51 | 0 | 0 | 100 | 8.7 |
| R13-75 | 140 | 63 | full | 6 | 6 | 13 | 28 | 35 | 12 | 53 | 11.5 |
| R13-76 | 140 | 67 | full | 5 | 6 | 12 | 30 | 41 | 6 | 52 | 10.1 |
| R13-77 | 140 | 63 | 4 | 3 | 8 | 30 | 59 | 0 | 0 | 100 | 8.2 |
| R13-78 | 139 | 66 | 4 | 2 | 3 | 7 | 64 | 24 | 0 | 76 | 9.4 |
| R13-79 | 124 | 66 | full | 7 | 7 | 10 | 32 | 34 | 11 | 55 | 10.3 |
| R13-80 | 140 | 66 | 4 | 4 | 7 | 23 | 58 | 8 | 0 | 92 | 11.0 |
| 5630 | 136 | 66 | full | 4 | 4 | 8 | 33 | 46 | 5 | 49 | 12.8 |
| Minuette | 140 | 67 | 4 | 5 | 7 | 23 | 59 | 6 | 0 | 94 | 9.3 |
| LSD@5% | | | | | | | | | | | 2.6 |

[z]Mean of 2 replications; subplots of 5' were harvested from single 20' plots in rows 36" apart.

[y]Percent calculated as % of total of 1-6 sieve beans.

**Table 14 Notes on recombinant inbred lines, May 31 planting, Corvallis, 2002**

| Line | Color[z] | Length (cm) | Width (mm)[y] | Height (mm)[y] | Straight-ness[x] | Cross Section[w] | Smooth-ness[x] | Shiny or dull | Strings | Notes[v] |
|---|---|---|---|---|---|---|---|---|---|---|
| R13-1 | 5 | 14.5 | 7.5 | 9.0 | 7 | oval | 7 | shiny | part | Very sweet |
| R13-2 | 5 | 11.0 | 9.0 | 9.0 | 4 | round | 5 | dull | part | Curved pods; 5 sv seedy, 4 sv becoming seedy |
| R13-3 | 5 | 16.0 | 10.5 | 10.0 | 1 | round | 5 | dull | no | 6 sv seedy, some seed development in 5 sv |
| R13-4 | 5 | 15.0 | 10.0 | 11.0 | 5 | oval | 3 | dull | no | |
| R13-5 | 5 | 11.5 | 9.0 | 8.5 | 9 | heart | 9 | shiny | no | Seeds in 5 sv; 4 sv OK |
| R13-6 | 4 | 12.0 | 9.0 | 10.0 | 8 | heart | 3 | dull | yes | Getting seedy in 4 & 5 sv |
| R13-7 | 7 | 13.0 | 9.0 | 8.0 | 8 | round | 4 | shiny | no | Two-toned color; 4 sv just getting seedy |
| R13-8 | 6 | 15.0 | 12.0 | 10.0 | 5 | cb | 5 | dull | no | Seed development in 5 & 6 sv |
| R13-9 | 6 | 15.0 | 11.5 | 9.0 | 3 | cb | 5 | shiny | no | Seed development in 6 sv; 5 sv OK |
| R13-10 | 4 | 11.0 | 9.0 | 8.5 | 5 | heart | 3 | dull | no | |
| R13-11 | 5 | 14.0 | 10.0 | 9.5 | 6 | heart | 7 | shiny | no | Contains oval mix; seed development in 5 sv |
| R13-12 | 7 | 15.5 | 9.0 | 10.0 | 5 | oval | 5 | shiny | no | Seed development starting in 5 & 6 sv |
| R13-13 | 3 | 10.5 | 8.0 | 7.0 | 8 | round to cb | 5 | dull | yes | 4 sv seedy; 3 sv becoming seedy |
| R13-14 | 6 | 12.0 | 10.0 | 10.0 | 9 | round | 5 | dull | part | Seed development in 4 & 5 sv |
| R13-15 | 4 | 14.5 | 9.5 | 9.0 | 5 | round | 7 | shiny | no | Some seed development in 4 & 5 sv |
| R13-16 | 6 | 14.5 | 8.5 | 10.0 | 7 | round | 7 | dull | yes | Some seed development in 4 & 5 sv |
| R13-17 | 3 | 13.0 | 11.0 | 9.0 | 5 | cb | 3 | shiny | no | Seedy 5 & 6 sv |
| R13-18 | 3 | 15.0 | 8.5 | 9.0 | 3 | oval | 7 | dull | part | Seedy 4 & 5 sv; looks like high fiber |
| R13-19 | 5 | 15.5 | 10.5 | 9.5 | 3 | round | 5 | shiny | no | Seed development in 6 sv |
| R13-20 | 7 | 13.0 | 11.0 | 10.0 | 5 | cb | 5 | dull | no | Seed development in 4 & 5 sv |
| R13-21 | 6 | 12.0 | 11.0 | 9.0 | 6 | cb | 4 | shiny | no | Very short fat pods with reverse curve; 6 sv seedy, 5 sv mostly OK, 4 sv short and junky |
| R13-22 | 4 | 12.0 | 8.0 | 9.0 | 5 | oval | 9 | shiny | part | Seed development in 4 sv; 3 sv OK |
| R13-23 | 5 | 15.0 | 11.5 | 9.5 | 3 | cb | 7 | shiny | no | Mixed seediness in 6 sv; 5 sv OK |
| R13-24 | 2 | 12.5 | 9.0 | 8.0 | 6 | round | 6 | dull | part | Long pods with reverse curve; 4 sv getting seedy |
| R13-25 | 5 | 12.5 | 7.0 | 9.0 | 5 | oval | 7 | dull | yes | Positive curve; 4 sv very seedy, 3 sv getting seedy |
| R13-26 | 7 | 11.0 | 13.0 | 11.0 | 3 | cb | 3 | dull | no | 6 sv just getting seedy |
| R13-27 | 8 | 11.5 | 13.5 | 10.0 | 8 | cb | 3 | shiny | no | 6 sv seedy but 5 sv still look good |
| R13-28 | 4 | 14.5 | 6.5 | 9.0 | 5 | oval | 7 | shiny | yes | |
| R13-29 | 5 | 13.0 | 9.5 | 9.5 | 5 | heart | 7 | dull | part | Seed development in 5 sv; 4 sv OK |
| R13-30 | 5 | 13.0 | 9.5 | 10.0 | 8 | oval | 7 | dull | part | |
| R13-31 | 3 | 15.0 | 8.5 | 9.5 | 5 | oval | 7 | shiny | part | Seed development in 5 sv |
| R13-32 | 4 | 11.5 | 10.0 | 9.0 | 5 | cb | 7 | dull | no | Broad distribution of sieve sizes; moderate seed development in 4 & 5 sv |
| R13-33 | 4 | 11.0 | 9.0 | 9.5 | 7 | slightly oval | 7 | dull | part | Seed development in 4 & 5 sv |
| R13-34 | 7 | 13.0 | 9.0 | 9.0 | 7 | round | 7 | shiny | no | Upright; nice looking; fair flavor |
| R13-35 | 4 | 11.0 | 8.5 | 9.0 | 7 | oval | 7 | shiny | no | Seed development in 4 sv, 5 sv seedy |

**Table 14 Notes on recombinant inbred lines, May 31 planting, Corvallis, 2002 (cont)**

| Line | Color[z] | Length (cm) | Width (mm)[y] | Height (mm)[y] | Straight-ness[x] | Cross Section[w] | Smooth-ness[x] | Shiny or dull | Strings | Notes[v] |
|---|---|---|---|---|---|---|---|---|---|---|
| R13-36 | 6 | 12.5 | 7.0 | 7.5 | 7 | oval | 7 | dull | no | Seed development beginning in 4 sv |
| R13-37 | 3 | 12.5 | 7.0 | 8.5 | 3 | very oval | 7 | dull | part | Seedy 3 & 4 sv |
| R13-38 | 5 | 14.5 | 9.0 | 9.0 | 7 | round | 7 | shiny | no | Long pods; mixed seed development in 4 sv |
| R13-39 | 7 | 12.0 | 12.5 | 11.0 | 6 | cb | 5 | shiny | no | Seedy 6 sv, seed developing in 5 sv |
| R13-40 | 5 | 13.0 | 9.0 | 8.5 | 5 | oval | 7 | dull | part | Picked a day or two late; very seedy 6 sv, 4 & 5 sv seedy |
| R13-41 | 3 | 11.0 | 9.0 | 9.0 | 8 | round | 3 | dull | no | Very seedy 5 sv; mixed seed development in 4 sv |
| R13-42 | 8 | 12.5 | 9.5 | 9.0 | 5 | round | 5 | shiny | part | Moderate seed development in 4 sv; 5 sv seedy |
| R13-43 | 7 | 15.5 | 11.0 | 9.5 | 3 | heart | 5 | dull | no | Does not go cleanly through grader; strong interlocular cavitation in 6 sv; seed developing in 5 & 6 sv |
| R13-44 | 7 | 13.0 | 8.0 | 9.0 | 8 | round | 7 | shiny | no | Two tone; 4 sv developing seeds |
| R13-45 | 6 | 12.5 | 10.5 | 10.0 | 5 | slightly oval | 7 | shiny | no | Seedy 6 sv, seeds developing in 5 sv |
| R13-46 | 8 | 13.5 | 7.0 | 9.0 | 5 | oval | 8 | shiny | yes | Curved pods; 4 sv seedy, some 3 sv seedy |
| R13-47 | 6 | 12.5 | 11.5 | 10.0 | 5 | cb | 5 | shiny | part | Some seed development in 6 sv |
| R13-48 | 6 | 15.0 | 8.5 | 10.0 | 7 | oval | 5 | shiny | part | Low yield; porous upright canopy; seed developing in 4 & 5 sv |
| R13-49 | 9 | 16.0 | 10.0 | 9.5 | 3 | cb | 5 | shiny | no | Slight perfume flavor; very dark green interior |
| R13-50 | 3 | 14.0 | 11.0 | 9.5 | 5 | cb | 5 | dull | no | Seedy 6 sv, seeds developing in 5 sv; broad distribution of sieve sizes |
| R13-51 | 5 | 13.5 | 9.5 | 10.0 | 3 | oval | 3 | dull | no | Moderately seedy in 6 sv, 5 sv not seedy |
| R13-52 | 7 | 10.5 | 8.5 | 8.5 | 9 | heart | 9 | shiny | no | Moderate seed development in 5 sv |
| R13-53 | 5 | 12.0 | 8.0 | 9.0 | 7 | sl. oval | 3 | dull | yes | Seed developing in 4 sv, 5 sv seedy |
| R13-54 | 4 | 14.0 | 8.5 | 9.0 | 3 | oval | 7 | shiny | no | Seedy in 5 & 6 sv; has broad range of sieve sizes |
| R13-55 | 5 | 14.5 | 9.5 | 9.0 | 7 | round | 5 | shiny | no | Some 5 sv seedy |
| R13-56 | 7 | 11.5 | 8.5 | 9.5 | 7 | oval | 9 | dull | part | Moderate seed development in 4 sv; 3 sv OK |
| R13-57 | 5 | 12.5 | 11.0 | 9.0 | 5 | cb | 7 | dull | no | Seed developing in 4 & 5 sv |
| R13-58 | 5 | 12.5 | 7.5 | 9.0 | 7 | oval | 9 | shiny | part | Seedy 4 sv; seed developing in 3 sv |
| R13-59 | 6 | 13.5 | 12.0 | 9.5 | 5 | sl. cb | 7 | shiny | no | Not very seedy in 5 & 6 sv yet |
| R13-60 | 3 | 14.5 | 10.0 | 10.0 | 7 | heart | 7 | dull | yes | |
| R13-61 | 7 | 13.0 | 10.0 | 9.5 | 5 | sl. heart | 7 | shiny | no | Moderate seed development in 5 & 6 sv |
| R13-62 | 6 | 10.5 | 8.0 | 8.0 | 8 | round | 7 | dull | no | 4 sv getting seedy |
| R13-63 | 6 | 14.0 | 8.5 | 10.0 | 8 | oval | 9 | shiny | no | Rank habit; seedy 5 sv, seed development in 4 sv |
| R13-64 | 3 | 13.0 | 9.5 | 9.0 | 7 | round | 7 | dull | part | High fiber? |

**Table 14 Notes on recombinant inbred lines, May 31 planting, Corvallis, 2002 (cont)**

| Line | Color[z] | Length (cm) | Width (mm)[y] | Height (mm)[y] | Straight-ness[x] | Cross Section[w] | Smooth-ness[x] | Shiny or dull | Strings | Notes[v] |
|---|---|---|---|---|---|---|---|---|---|---|
| R13-65 | 7 | 17.0 | 12.0 | 10.0 | 3 | cb | 3 | shiny | no | Some seed development in 5 & 6 sv--could get larger; good flavor |
| R13-66 | 5 | 9.5 | 7.0 | 8.0 | 8 | slightly oval | 7 | dull | part | Short pods; 4 sv seedy, 3 sv OK |
| R13-67 | 4 | 12.0 | 10.0 | 9.5 | 6 | round | 7 | dull | no | Seedy in 4 & 5 sv; contains larger sv mix--tried to rogue out |
| R13-68 | 7 | 11.3 | 8.0 | 8.0 | 8 | round | 7 | shiny | part | Slight positive curve; 4 sv seedy and pithy; 3 sv very short and junky |
| R13-69 | 5 | 14.0 | 9.0 | 9.5 | 3 | heart | 7 | shiny | yes | Seedy 5 sv; seeds developing in 4 sv |
| R13-70 | 9 | 14.0 | 9.0 | 9.5 | 8 | oval | 7 | shiny | yes | Seedy in 4 sv; 3 sv OK; strange flavor--strong perfume |
| R13-71 | 3 | 11.5 | 8.0 | 10.0 | 3 | oval | 7 | dull | part | Seedy 4 sv; 3 sv OK; high fiber; almost flat |
| R13-72 | 5 | 15.5 | 13.5 | 9.5 | 3 | cb | 5 | dull | no | Strong perfume |
| R13-73 | 6 | 13.0 | 10.5 | 9.5 | 7 | round | 5 | shiny | part | Seeds just beginning in 4 sv |
| R13-74 | 4 | 12.0 | 7.0 | 10.0 | 5 | oval | 7 | dull | part | Curved; 4 sv getting seedy |
| R13-75 | 8 | 16.0 | 10.0 | 10.0 | 5 | round | 3 | shiny | no | Long pods; 6 sv seedy, 5 sv getting seedy |
| R13-76 | 9 | 11.5 | 11.5 | 9.0 | 6 | cb | 7 | shiny | no | Seed developing in 6 sv; 5 sv OK |
| R13-77 | 8 | 10.5 | 9.0 | 8.0 | 6 | round to cb | 7 | dull | no | Some 2-tone pods; short pods; 4 sv getting seedy, 3 sv short and junky |
| R13-78 | 5 | 11.5 | 9.5 | 9.0 | 7 | round | 5 | shiny | no | Good flavor |
| R13-79 | 6 | 12.5 | 12.5 | 9.0 | 5 | cb | 5 | dull | no | May be a bit young |
| R13-80 | 4 | 16.0 | 9.0 | 10.0 | 3 | slightly oval | 9 | shiny | no | Seed developing in 4 & 5 sv |
| 5630 | 5 | 16.0 | 11.0 | 10.0 | 3 | round | 5 | dull | no | |
| Minuette | 5 | 10.0 | 9.0 | 9.0 | 7 | round | 7 | shiny | no | Some seed development in 5 sv |

[z] Scores based on a 1-9 scale with 9 darkest
[y] Pod height and width measured on a cross-section with height measured from suture to suture and width measured perpendicular to height
[x] Scores based on a 1-9 scale with 9 best
[w] Cross section: cb = crease-back
[v] Notes: sv = sieve

**Table 15. Fusarium root rot infection, Corvallis, 2002.**

| Line | Score[z] Rep 1 | Rep 2 | Average | Notes |
|---|---|---|---|---|
| 91G | 4.5 | 4.0 | 4.3 | |
| OR 54 | 4.5 | 3.5 | 4.0 | |
| 5446 | 5.0 | 4.0 | 4.5 | |
| 6058 | 4.0 | 2.5 | 3.3 | |
| 6059 | 3.0 | 3.0 | 3.0 | |
| 6062 | 2.5 | 4.0 | 3.3 | |
| 6063 | 4.0 | 3.0 | 3.5 | |
| 6067 | 3.0 | 3.5 | 3.3 | |
| 6068 | 2.5 | 2.5 | 2.5 | late |
| 6072 | 4.0 | 3.5 | 3.8 | |
| 6074 | 4.0 | 4.0 | 4.0 | |
| 6076 | 2.5 | 3.5 | 3.0 | |
| 6077 | 3.0 | 5.0 | 4.0 | variable infection--segregating? |
| 6078 | 2.0 | 4.0 | 3.0 | |
| 6079 | 3.5 | 4.0 | 3.8 | |
| 6083 | 4.5 | 2.5 | 3.5 | |
| 6086 | 2.0 | 3.5 | 2.8 | |
| 6090 | 4.0 | 3.0 | 3.5 | |
| 6091 | 2.0 | 3.5 | 2.8 | variable infection--segregating? |
| 6093 | 4.0 | 3.0 | 3.5 | |
| 6094 | 3.5 | 3.5 | 3.5 | |
| 6098 | 2.5 | 2.0 | 2.3 | |
| 6100 | 3.0 | 2.0 | 2.5 | |
| 6104 | 3.5 | 3.0 | 3.3 | |
| 6109 | 3.0 | 3.0 | 3.0 | |
| 6110 | 3.5 | 4.0 | 3.8 | |
| 6111 | 3.0 | 4.0 | 3.5 | |
| 6112 | 5.0 | 5.0 | 5.0 | |
| 6113 | 4.5 | 2.5 | 3.5 | |
| 6117 | 3.5 | 3.0 | 3.3 | |
| 6118 | 4.0 | 4.0 | 4.0 | |
| 6120 | 3.5 | 3.0 | 3.3 | |
| 6123 | 3.5 | 3.5 | 3.5 | |
| 6126 | 3.0 | 4.0 | 3.5 | |
| 6127 | 3.5 | 2.0 | 2.8 | |
| 6128 | 3.0 | 3.0 | 3.0 | |
| 6129 | 2.0 | 4.0 | 3.0 | |
| 6130 | 2.5 | 2.5 | 2.5 | |
| 6131 | 2.0 | 2.5 | 2.3 | |
| 6132 | 3.5 | 3.5 | 3.5 | |
| 6133 | 3.0 | 3.0 | 3.0 | |
| 6134 | 3.0 | 4.0 | 3.5 | |
| 6135 | 4.0 | 3.0 | 3.5 | |
| 6136 | 3.0 | 3.0 | 3.0 | |
| 6137 | 3.0 | 2.0 | 2.5 | |
| 6138 | 3.5 | 3.5 | 3.5 | |
| 6139 | 4.0 | 4.0 | 4.0 | |
| 6140 | 4.0 | 3.0 | 3.5 | |
| 6141 | 4.0 | 3.0 | 3.5 | |
| 6142 | 3.5 | 3.0 | 3.3 | |

**Table 15. Fusarium root rot infection, Corvallis, 2002 (cont).**

| Line | Score[z] Rep 1 | Rep 2 | Average | Notes |
|---|---|---|---|---|
| 6143 | 3.5 | 3.5 | 3.5 | |
| 6144 | 3.5 | 4.0 | 3.8 | |
| 6145 | 2.5 | 3.0 | 2.8 | |
| 6146 | 3.0 | 4.0 | 3.5 | |
| 6148 | 2.5 | 3.0 | 2.8 | |
| 6149 | 3.0 | 3.5 | 3.3 | |
| 6150 | 3.5 | 3.5 | 3.5 | |
| 6151 | 2.0 | 2.5 | 2.3 | |
| 6152 | 4.5 | 2.5 | 3.5 | |
| 6153 | 4.0 | 2.5 | 3.3 | |
| 6154 | 3.5 | 4.0 | 3.8 | |
| 6155 | 3.5 | 3.0 | 3.3 | |
| 6156 | 4.0 | 3.5 | 3.8 | |
| 6157 | 3.5 | 3.5 | 3.5 | |
| 6158 | 4.5 | 3.5 | 4.0 | |
| 6159 | 3.5 | 3.5 | 3.5 | |
| 6160 | 3.0 | 4.0 | 3.5 | |
| 6161 | 4.0 | 3.0 | 3.5 | |
| 6162 | 2.0 | 3.0 | 2.5 | |
| 6163 | 3.0 | 3.5 | 3.3 | |
| 6164 | 3.5 | 2.5 | 3.0 | |
| 6165 | 4.0 | 4.0 | 4.0 | |
| 6166 | 3.5 | 4.0 | 3.8 | |
| 6167 | 3.0 | 3.0 | 3.0 | |
| 6168 | 2.5 | 3.5 | 3.0 | |
| 6169 | 3.5 | 4.0 | 3.8 | |
| 6170 | 3.0 | 2.5 | 2.8 | |
| 6171 | 3.5 | 4.0 | 3.8 | |
| 6172 | 3.0 | 3.5 | 3.3 | |
| 6173 | 3.5 | 3.0 | 3.3 | |
| 6174 | 3.0 | 4.0 | 3.5 | |
| 6175 | 3.5 | 3.5 | 3.5 | |
| 6176 | 3.0 | 2.5 | 2.8 | |
| 6177 | 3.0 | 4.5 | 3.8 | |
| 6179 | 2.0 | 3.0 | 2.5 | |
| 6180 | 2.5 | 3.0 | 2.8 | |
| 6181 | 5.0 | 3.5 | 4.3 | |
| 6182 | 3.5 | 2.5 | 3.0 | variable maturity |
| 6183 | 4.0 | 2.5 | 3.3 | variable infection--segretating? |
| 6184 | 3.5 | 3.0 | 3.3 | |
| 6185 | 4.0 | 3.0 | 3.5 | |
| 6186 | 4.0 | 4.5 | 4.3 | |
| 6187 | 2.0 | 3.0 | 2.5 | |
| 6188 | 3.5 | 2.5 | 3.0 | |
| 6189 | 3.5 | 2.5 | 3.0 | |
| 6190 | 4.0 | 3.5 | 3.8 | |
| 6191 | 3.5 | 3.5 | 3.5 | |
| 6192 | 2.0 | 3.0 | 2.5 | |
| 6193 | 3.0 | 3.5 | 3.3 | |
| 6194 | 4.0 | 2.0 | 3.0 | |
| 6195 | 2.0 | 3.5 | 2.8 | |

**Table 15. Fusarium root rot infection, Corvallis, 2002 (cont).**

| Line | Score[z] Rep 1 | Rep 2 | Average | Notes |
|---|---|---|---|---|
| 6196 | 4.0 | 3.5 | 3.8 | |
| 6197 | 3.0 | 2.5 | 2.8 | |
| 6198 | 3.5 | 2.5 | 3.0 | |
| 6199 | 3.5 | 4.0 | 3.8 | |
| 6200 | 3.5 | 3.0 | 3.3 | |
| 6201 | 2.0 | 2.0 | 2.0 | |
| 6202 | 4.0 | 3.0 | 3.5 | |
| 6203 | 4.0 | 2.5 | 3.3 | |
| 6204 | 3.5 | 3.0 | 3.3 | |
| 6205 | 3.5 | 2.5 | 3.0 | |
| 6206 | 3.5 | 3.0 | 3.3 | |
| 6207 | 3.5 | 3.0 | 3.3 | |
| 6208 | 3.0 | 2.0 | 2.5 | |
| 6209 | 4.0 | 3.5 | 3.8 | |
| 6210 | 2.5 | 3.5 | 3.0 | |
| 6211 | 2.5 | 3.5 | 3.0 | |
| 6212 | 4.0 | 3.0 | 3.5 | |
| 6213 | 3.5 | 3.5 | 3.5 | |
| 6214 | 3.0 | 3.0 | 3.0 | |
| 6215 | 3.0 | 2.0 | 2.5 | |
| 6216 | 5.0 | 4.5 | 4.8 | |
| 6217 | 4.0 | 3.0 | 3.5 | |
| 6218 | 3.0 | 4.0 | 3.5 | |
| 6219 | 2.5 | 4.0 | 3.3 | |
| 6220 | 2.0 | 3.5 | 2.8 | |
| 6221 | 2.5 | 4.0 | 3.3 | |
| 6222 | 4.5 | 3.5 | 4.0 | |
| Minuette | 4.0 | 4.0 | 4.0 | |
| B7030-24 | 2.0 | 2.0 | 2.0 | |
| B7126-33-1-2 | 2.0 | 3.5 | 2.8 | |
| B7239-11-2 | 3.0 | 1.5 | 2.3 | |
| B7239-5-4 | 2.5 | 1.5 | 2.0 | early |
| B7240-2 | 3.0 | 4.0 | 3.5 | late |
| DM4NY6 | 2.5 | 3.5 | 3.0 | highly variable |
| DM6NY1 | 2.5 | 3.0 | 2.8 | |
| FR 266 | 3.5 | 4.0 | 3.8 | |
| NY 5517 | 4.5 | 2.5 | 3.5 | |
| RR4270 | 3.0 | 2.0 | 2.5 | |
| RR6950 | 1.0 | 1.5 | 1.3 | |
| WIS 46RR | 3.0 | 3.0 | 3.0 | |
| WIS 83RR | 1.5 | 3.0 | 2.3 | |
| LSD @5% | | | 1.3 | |

[z]Scores: 1-5 scale; 1=none or very slight surface infection, 5=roots mostly dead, plants stunted. Readings were taken for each variety when pods had reached 50% buckskin stage.

**Table 16. White mold infection, Corvallis, 2002[z]**

| Line | White Mold Score | | | | | Yield[y] | Habit[x] |
|---|---|---|---|---|---|---|---|
| | Rep 1 | Rep 2 | Rep 3 | Rep 4 | AV | AV | AV |
| 91G | 8 | 8 | 8 | 9 | 8.3 | 2.0 | 1.8 |
| Ore 54 | 9 | 8 | 9 | 10 | 9.0 | 1.9 | 1.5 |
| 5416 | 9 | 8 | 9 | 9 | 8.8 | 2.0 | 1.6 |
| 5600 | 8 | 8 | 7 | 9 | 8.0 | 2.0 | 1.5 |
| 5613 | 9 | 9 | 9 | 9 | 9.0 | 1.0 | 1.8 |
| 5630 | 9 | 8 | 9 | 9 | 8.8 | 1.3 | 1.6 |
| 5635 | 8 | 8 | 9 | 9 | 8.5 | 1.8 | 1.8 |
| 5747 | 8 | 4 | 5 | 9 | 6.5 | 2.3 | 2.5 |
| 5962 | 4 | 8 | 6 | 4 | 5.5 | 2.5 | 2.8 |
| 5977 | 9 | 7 | 9 | 9 | 8.5 | 1.5 | 1.5 |
| 5978 | 8 | 9 | 9 | 9 | 8.8 | 2.9 | 2.3 |
| 5997 | 8 | 9 | 7 | 7 | 7.8 | 2.5 | 3.0 |
| 225846 | 5 | 3 | 4 | 3 | 3.8 | 2.0 | 3.3 |
| 76-110 | 7 | 7 | 8 | 5 | 6.8 | 1.6 | 1.8 |
| B7321-5-1-2-1 | 6 | 4 | 6 | 5 | 5.3 | 1.8 | 2.8 |
| B7334-9-2-2-1 | 7 | 7 | 4 | 4 | 4.5 | 1.6 | 3.8 |
| B7335-7-1-1-2 | 3 | 7 | 5 | 5 | 5.0 | 2.8 | 3.8 |
| B7335-7-1-2-1 | 8 | 4 | 5 | 4 | 5.3 | 2.4 | 3.8 |
| B7335-7-2-1-1 | 3 | 5 | 3 | 7 | 4.5 | 2.3 | 3.5 |
| B7344-5-1-1 | 3 | 4 | 4 | 3 | 3.5 | 2.4 | 3.5 |
| B7354-2-2-2-1 | 7 | 5 | 5 | 7 | 6.0 | 2.0 | 2.9 |
| B7354-6-2-1 | 2 | 1 | 4 | 2 | 2.3 | 2.4 | 3.8 |
| B7354-6-2-2 | 3 | 3 | 3 | 4 | 3.3 | 1.6 | 3.5 |
| B7356-4-2-1 | 8 | 1 | 6 | 5 | 5.0 | 1.9 | 3.0 |
| B7708/6-1 | 4 | 4 | 4 | 3 | 3.8 | 1.9 | 2.3 |
| B7708/6-2 | 3 | 3 | 3 | 4 | 3.3 | 2.1 | 3.3 |
| B7709/6-1 | 3 | 3 | 3 | 4 | 3.3 | 2.0 | 3.5 |
| B7709/6-2 | 5 | 4 | 3 | 4 | 4.0 | 2.0 | 2.8 |
| B7709/6-3 | 4 | 3 | NA | NA | 3.5 | 2.0 | 3.5 |
| B7710/6-1 | 4 | 5 | 4 | 3 | 4.0 | 2.4 | 3.5 |
| B7710/6-3 | 5 | 5 | 6 | 7 | 5.8 | 2.3 | 2.8 |
| B7711/6-1 | 8 | 3 | 7 | 8 | 6.5 | 2.0 | 2.1 |
| B7711/6-2 | 3 | 5 | 6 | 7 | 5.3 | 2.0 | 3.3 |
| B7711/6-3 | 6 | NA | NA | NA | 6.0 | 2.5 | 2.0 |
| B7714/6-1 | 3 | NA | NA | NA | 3.0 | 1.0 | 3.0 |
| B7714/6-3 | 7 | 3 | 3 | 6 | 4.8 | 1.6 | 3.0 |
| B7714/6-4 | 5 | 3 | 2 | 4 | 3.5 | 2.5 | 3.0 |
| B7714/6-5 | 6 | 5 | 3 | 3 | 4.3 | 1.8 | 2.9 |
| B7714/6-6 | 4 | 5 | 3 | 3 | 3.8 | 1.9 | 2.8 |
| B7714/6-8 | 5 | 7 | 5 | 6 | 5.8 | 1.8 | 2.8 |
| B7715/6-1 | 7 | 8 | 9 | 9 | 8.3 | 1.8 | 1.8 |
| B7715/6-2 | 4 | 3 | 4 | 6 | 4.3 | 2.0 | 2.8 |
| B7716/6-1 | 7 | 8 | 7 | 4 | 6.5 | 2.6 | 2.6 |
| B7716/6-2 | 4 | 5 | 3 | 6 | 4.5 | 2.4 | 3.3 |
| B7716/6-3 | 4 | 3 | 7 | 4 | 4.5 | 2.3 | 2.5 |
| B7717/6-1 | 6 | 7 | 6 | 5 | 6.0 | 2.4 | 3.0 |

**Table 16. White mold infection, Corvallis, 2002 (cont.)z**

| Line | White Mold Score | | | | | Yield[y] | Habit[x] |
|---|---|---|---|---|---|---|---|
| | Rep 1 | Rep 2 | Rep 3 | Rep 4 | AV | AV | AV |
| B7922/5-16 | 4 | 5 | 4 | 6 | 4.8 | 1.5 | 2.6 |
| B7922/5-28 | 6 | 7 | 7 | 7 | 6.8 | 2.1 | 2.9 |
| B7922/5-3 | 6 | 6 | 5 | 7 | 6.0 | 1.9 | 2.5 |
| B7922/5-31 | 7 | 8 | 8 | 7 | 7.5 | 1.1 | 3.0 |
| B7922/5-32 | 5 | 3 | 7 | 5 | 5.0 | 2.0 | 2.8 |
| B7922/5-4 | 4 | NA | 6 | NA | 5.0 | 3.0 | 3.3 |
| B7922/5-6 | 5 | 6 | 7 | 7 | 6.3 | 2.9 | 3.8 |
| B7922/5-9 | 7 | 8 | 8 | 6 | 7.3 | 2.0 | 2.5 |
| B7923/5-11 | 5 | 3 | 6 | 3 | 4.3 | 2.6 | 2.3 |
| B7923/5-13 | 8 | 4 | 6 | 4 | 5.5 | 2.1 | 3.0 |
| B7923/5-14 | 5 | 7 | 8 | 8 | 7.0 | 2.8 | 2.0 |
| B7923/5-16 | 8 | 8 | 5 | 8 | 7.3 | 1.9 | 1.6 |
| B7923/5-19 | 6 | 8 | 6 | 7 | 6.8 | 1.0 | 2.3 |
| B7923/5-2 | 7 | 4 | 7 | 8 | 6.5 | 1.8 | 3.0 |
| B7923/5-21 | 9 | 7 | 8 | 8 | 8.0 | 1.0 | 2.3 |
| B7923/5-22 | 5 | 7 | 8 | 8 | 7.0 | 2.4 | 1.8 |
| B7923/5-5 | 8 | 9 | 9 | 8 | 8.5 | 1.6 | 2.0 |
| B7923/5-7 | 7 | 7 | 8 | 8 | 7.5 | 2.0 | 2.3 |
| B7924//5-14 | 8 | 9 | 7 | 4 | 7.0 | 1.6 | 2.5 |
| B7924/5-10 | 5 | 6 | 6 | 10 | 6.8 | 1.8 | 2.5 |
| B7924/5-13 | 8 | 9 | 8 | 8 | 8.3 | 1.6 | 2.5 |
| B7924/5-18 | 8 | NA | NA | NA | 8.3 | 1.9 | 2.3 |
| B7924/5-20 | 8 | 7 | 8 | 7 | 7.5 | 2.5 | 3.1 |
| B7924/5-22 | 9 | 9 | 8 | 8 | 8.5 | 1.8 | 1.5 |
| B7924/5-25 | 6 | 4 | 4 | 5 | 4.8 | 2.5 | 4.0 |
| B7924/5-27 | 6 | 7 | 8 | 9 | 7.5 | 2.0 | 2.8 |
| B7924/5-3 | 7 | 9 | 8 | 8 | 8.0 | 1.9 | 1.8 |
| B7924/5-31 | 8 | 9 | 9 | 9 | 8.8 | 1.4 | 1.4 |
| B7924/5-32 | 4 | NA | NA | NA | 4.0 | 1.5 | 3.0 |
| B7924/5-34 | 9 | 10 | 7 | 8 | 8.5 | 1.8 | 1.8 |
| B7924/5-35 | 7 | 9 | 9 | 7 | 8.0 | 2.0 | 1.8 |
| B7935/5-1 | 8 | 4 | 6 | 5 | 5.8 | 2.3 | 2.5 |
| B7935/5-13 | 4 | 7 | 6 | 8 | 6.3 | 1.4 | 1.9 |
| B7935/5-15 | 6 | 6 | 3 | 7 | 5.5 | 1.6 | 1.8 |
| B7935/5-16 | 8 | 9 | 8 | 8 | 8.3 | 1.9 | 2.5 |
| B7935/5-2 | 4 | 5 | 5 | 6 | 5.0 | 1.4 | 2.3 |
| B7935/5-22 | 9 | 10 | 9 | 9 | 9.3 | 1.5 | 2.0 |
| B7935/5-25 | 5 | 4 | 4 | 5 | 4.5 | 1.6 | 2.3 |
| B7935/5-26 | 7 | 5 | 5 | 4 | 5.3 | 2.3 | 2.0 |
| B7935/5-37 | 6 | 5 | 7 | 5 | 5.8 | 2.0 | 2.3 |
| B7935/5-41 | 7 | 6 | 7 | 7 | 6.8 | 1.6 | 1.3 |
| Ex Rico | 6 | 8 | 7 | 7 | 7.0 | 2.4 | 2.5 |
| FR 266 | 8 | 6 | 3 | 7 | 6.0 | 2.3 | 2.5 |
| G122-1 | 4 | 3 | 5 | 4 | 4.0 | 3.3 | 3.8 |
| H9658-9 | 4 | 5 | 4 | 5 | 4.5 | 2.3 | 3.3 |
| L192 | 2 | 2 | 3 | 3 | 2.5 | 2.3 | 3.8 |

**Table 16. White mold infection, Corvallis, 2002 (cont.)[z]**

| Line | White Mold Score | | | | | Yield[y] | Habit[x] |
|---|---|---|---|---|---|---|---|
| | Rep 1 | Rep 2 | Rep 3 | Rep 4 | AV | AV | AV |
| Minuette | 7 | 8 | 9 | 7 | 7.8 | 2.9 | 3.0 |
| MO 162 | 3 | 4 | 3 | 3 | 3.3 | 2.6 | 3.3 |
| SB 4123 | 7 | 5 | 4 | 6 | 5.5 | 3.0 | 2.5 |
| NY-15-161W | 8 | 2 | 8 | 8 | 6.5 | 2.6 | 3.3 |
| NY1-6020-4 | 4 | 5 | 6 | 4 | 4.8 | 1.8 | 2.5 |
| NY1-6020-5 | 4 | 5 | 5 | 4 | 4.5 | 2.3 | 3.3 |
| NY2-5984-1 | 4 | 3 | 3 | 3 | 3.3 | 2.6 | 3.5 |
| NY5773 | 2 | 3 | 3 | 2 | 2.5 | 3.1 | 3.8 |
| NY5972 | 3 | 4 | 3 | 3 | 3.3 | 2.4 | 3.0 |
| NYBS6637 | 5 | 3 | 3 | 4 | 3.8 | 2.4 | 3.0 |
| NYBS6643 | 3 | 3 | 5 | 6 | 4.3 | 2.1 | 2.8 |
| PI207130-2-4 | 4 | 4 | 3 | 5 | 4.0 | 2.1 | 2.8 |
| PI290990-4-1 | 4 | 3 | 2 | 3 | 3.0 | 2.6 | 3.3 |
| LSD @ 5% | | | | | 1.7 | 0.7 | 0.8 |

[z]White mold scores: 1-10, 1 = low incidence, no symptoms observed, 10 = high incidence, all plants in plot infected

[y]Visual observation of yield: 0 = no bean set, 4 = high bean set.

[x]Upright habit: 1 = flat, 4 = vertically upright.

**Table 17. Correlation Matrix of White Mold, Yield & Habit, Corvallis, 2002[z]**

| | White Mold | Yield | Upright |
|---|---|---|---|
| White Mold | 1.00 | -0.35 * | -0.61 * |
| Yield | | 1.00 | 0.45 * |
| Upright | | | 1.00 |

[z] * indicates significant correlation at .05 level.

**Table 18. Comparison of white mold field averages and straw test averages, Corvallis, 2002, 2001, 2000, 1999, & 1998.**

| | White Mold Field Score Average[z] | | | | |
|---|---|---|---|---|---|
| Line | 1998 AV | 1999 AV | 2000 AV | 2001 AV | 2002 AV |
| 91G | 6.8 | 8.5 | 7.8 | 8.3 | 8.3 |
| Ore 54 | 7.3 | 9.0 | 7.5 | 6.8 | 9.0 |
| 5416 | 6.8 | 9.0 | 8.3 | 5.5 | 8.8 |
| 5600 | 4.8 | 7.8 | 8.0 | 3.8 | 8.0 |
| 5613 | 7.3 | 9.3 | 6.8 | 6.5 | 9.0 |
| 5630 | 5.8 | 8.0 | 5.3 | 7.3 | 8.8 |
| 5635 | 7.5 | 8.8 | 5.8 | 6.9 | 8.5 |
| 5747 | 3.5 | 5.5 | 4.8 | 5.1 | 6.5 |
| 225846 | 2.0 | 6.0 | 1.8 | 2.1 | 3.8 |
| 76-110 | 2.8 | 8.3 | 2.0 | 5.0 | 6.8 |
| B7321-5-1-2-1 | 3.0 | 6.3 | 3.0 | 1.8 | 5.3 |
| B7334-9-2-2-1 | 1.8 | 2.9 | 2.0 | 1.4 | 4.5 |
| B7335-7-1-1-2 | 2.3 | 4.3 | 2.5 | 1.9 | 5.0 |
| B7335-7-1-2-1 | 2.0 | 3.8 | 1.8 | 2.5 | 5.3 |
| B7335-7-2-1-1 | 2.0 | 4.5 | 2.0 | 1.4 | 4.5 |
| B7344-5-1-1 | 1.3 | 3.8 | 1.5 | 2.3 | 3.5 |
| B7354-2-2-2-1 | 2.0 | 5.3 | 2.3 | 1.5 | 6.0 |
| B7354-6-2-1 | 1.5 | 2.5 | 1.3 | 1.8 | 2.3 |
| B7354-6-2-2 | 1.5 | x | 1.0 | 1.0 | 3.3 |
| B7356-4-2-1 | 3.3 | x | 2.0 | 2.9 | 5.0 |
| Ex Rico | 4.5 | 6.5 | 5.0 | 4.1 | 7.0 |
| FR 266 | 2.8 | 5.0 | 3.8 | 2.3 | 6.0 |
| G122-1 | x | 3.8 | 2.0 | 1.5 | 4.0 |
| H9658-9 | 1.0 | 4.0 | 2.0 | 2.1 | 4.5 |
| L192 | 1.8 | 2.0 | 1.5 | 1.1 | 2.5 |
| Minuette | 5.5 | 8.5 | 4.0 | 5.3 | 7.8 |
| MO 162 | 1.5 | 2.0 | 1.0 | 1.1 | 3.3 |
| NY-15-161W | 3.5 | 7.0 | 3.0 | 3.4 | 6.5 |
| NY1-6020-4 | 3.5 | x | 3.0 | 2.6 | 4.8 |
| NY1-6020-5 | 3.0 | 4.0 | 2.8 | 1.5 | 4.5 |
| NY2-5984-1 | 2.3 | 4.0 | 2.0 | 1.5 | 3.3 |
| NY5773 | 3.0 | 3.9 | 2.8 | 1.6 | 2.5 |
| NY5972 | 2.5 | 3.8 | 1.3 | 1.6 | 3.3 |
| NYBS6637 | 2.3 | 4.3 | 1.3 | 1.8 | 3.8 |
| NYBS6643 | 2.3 | 5.8 | 1.8 | 1.6 | 4.3 |
| PI207130-2-4 | x | x | 1.5 | 2.4 | 4.0 |
| PI290990-4-1 | x | x | 2.5 | 2.3 | 3.0 |
| SB 4123 | 4.5 | 7.8 | 4.0 | 4.0 | 5.5 |
| Overall AV | 3.4 | 5.6 | 3.2 | 3.1 | 5.3 |
| LSD @ .05 | | | | | 0.4 |

[z]White mold scores: 1-10, 1 = low incidence, no symptoms observed, 10 = high incidence, all plants in plot infected.

[x]Blank spaces due to incomplete data sets.

**Figure 1. Standard Bean $/A 2002 - April 25 Planting**

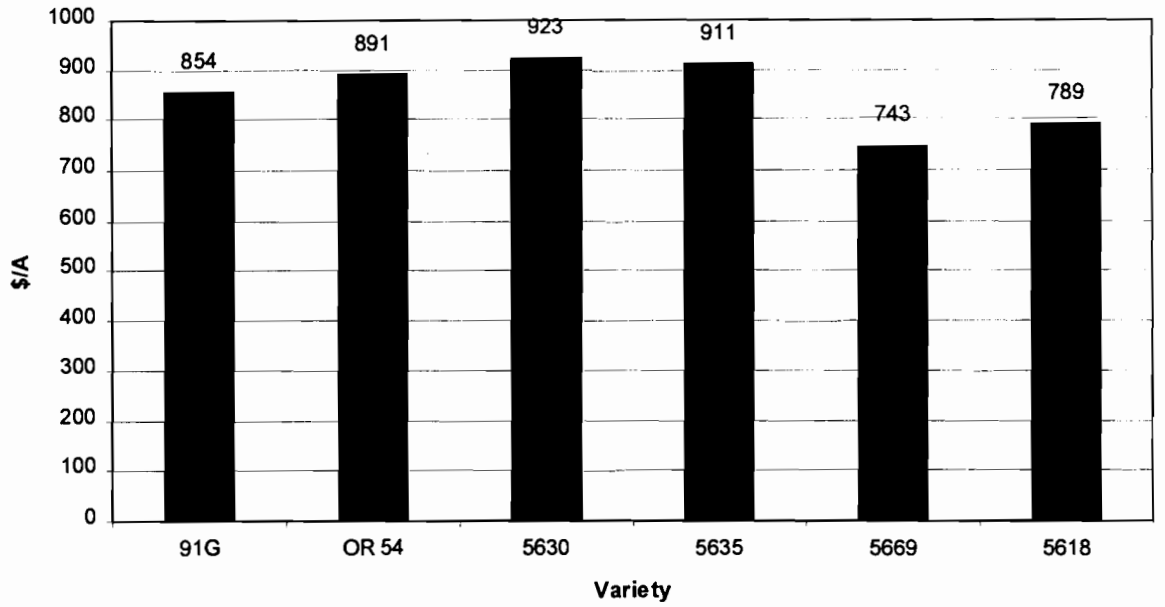


**Figure 2. Standard Bean $/A 2002 - May 13 Planting**

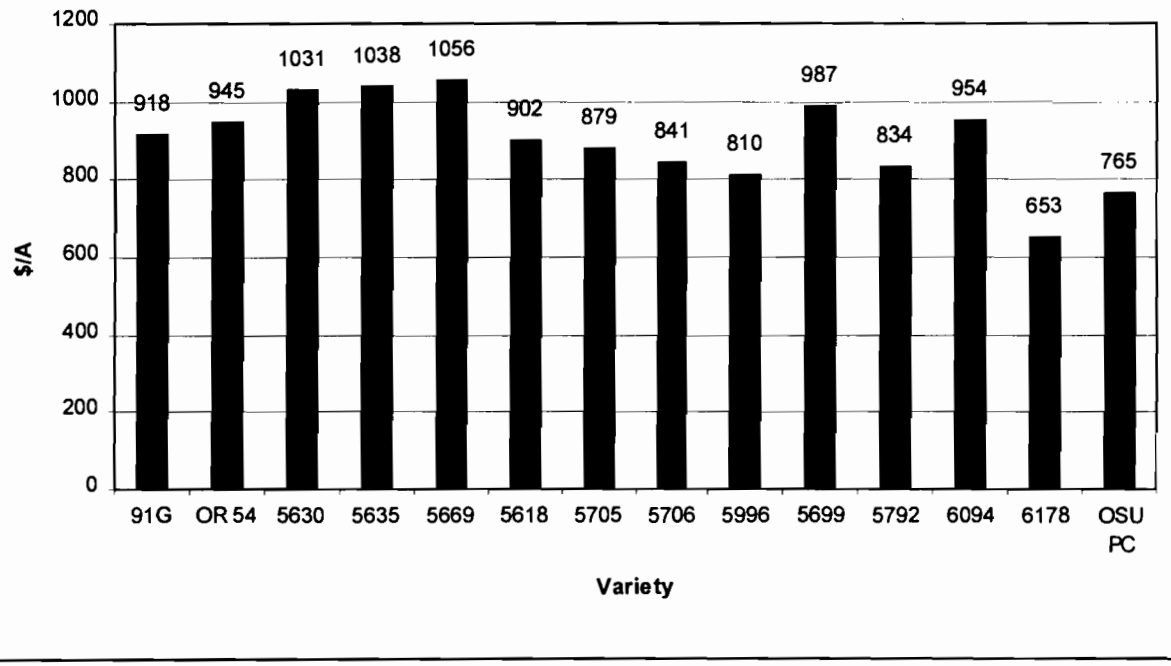

**Figure 3. Standard Bean $/A 2002 - June 25 Planting**

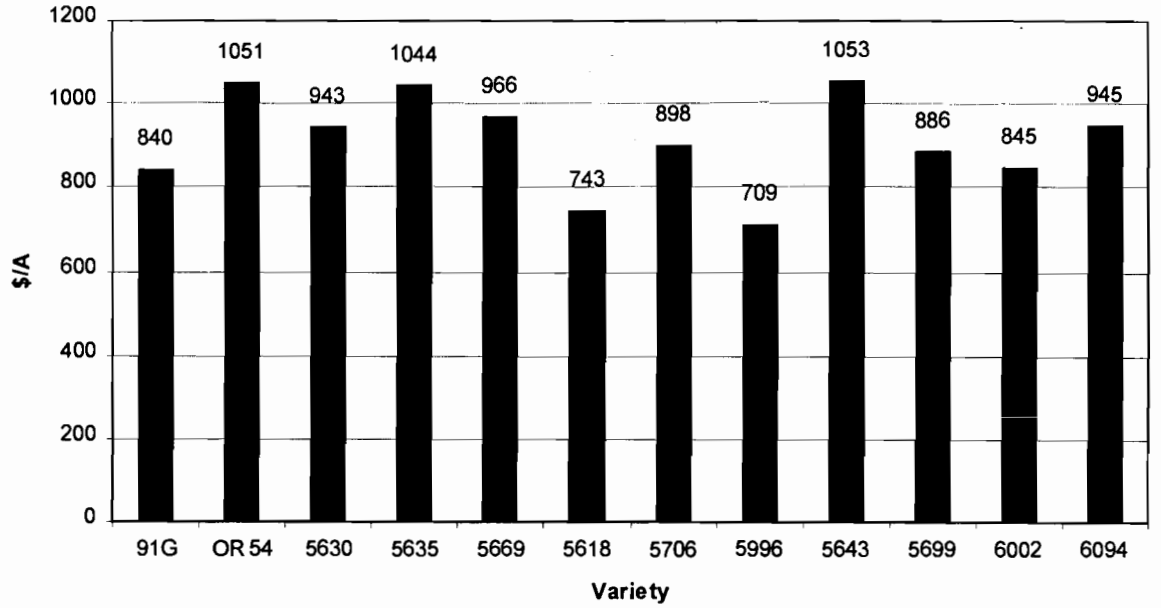


**Figure 4. Standard Bean $/A 1999 Season Average - Selected Harvests**

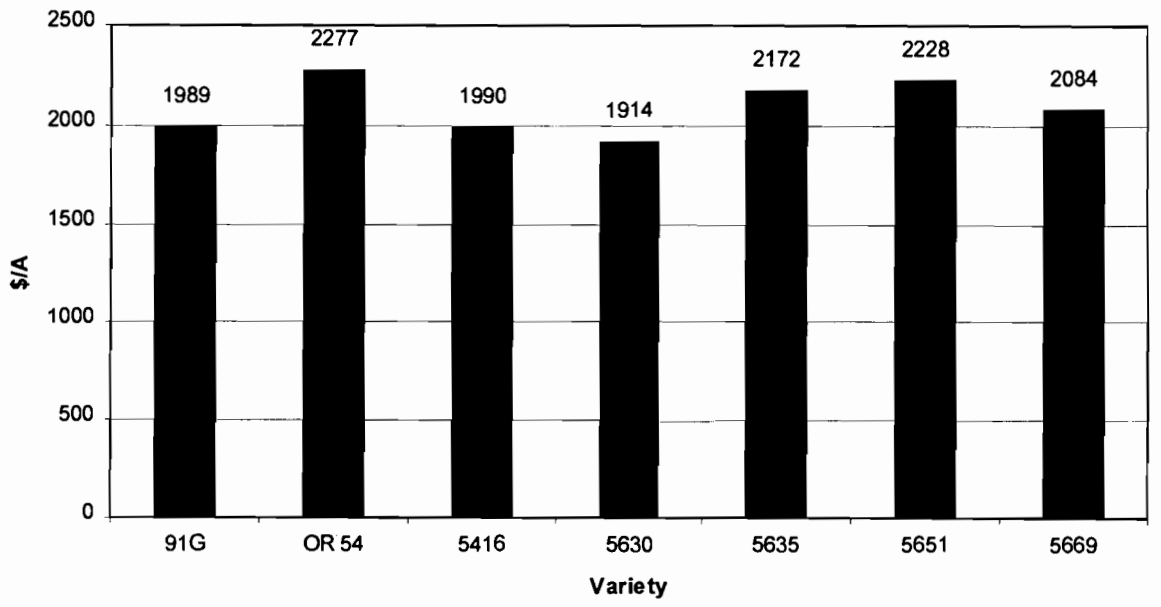

**Figure 5. Small Sieve Bean $/A 2002 - April 25 Planting**

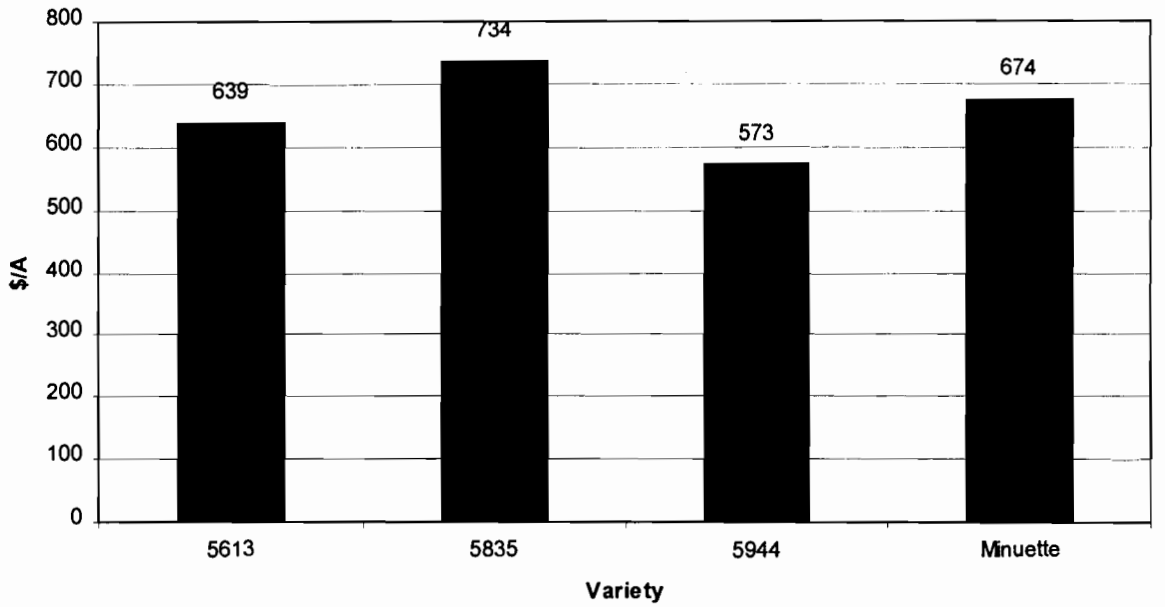


**Figure 6. Small Sieve Bean $/A 2002 - May 13 Planting**

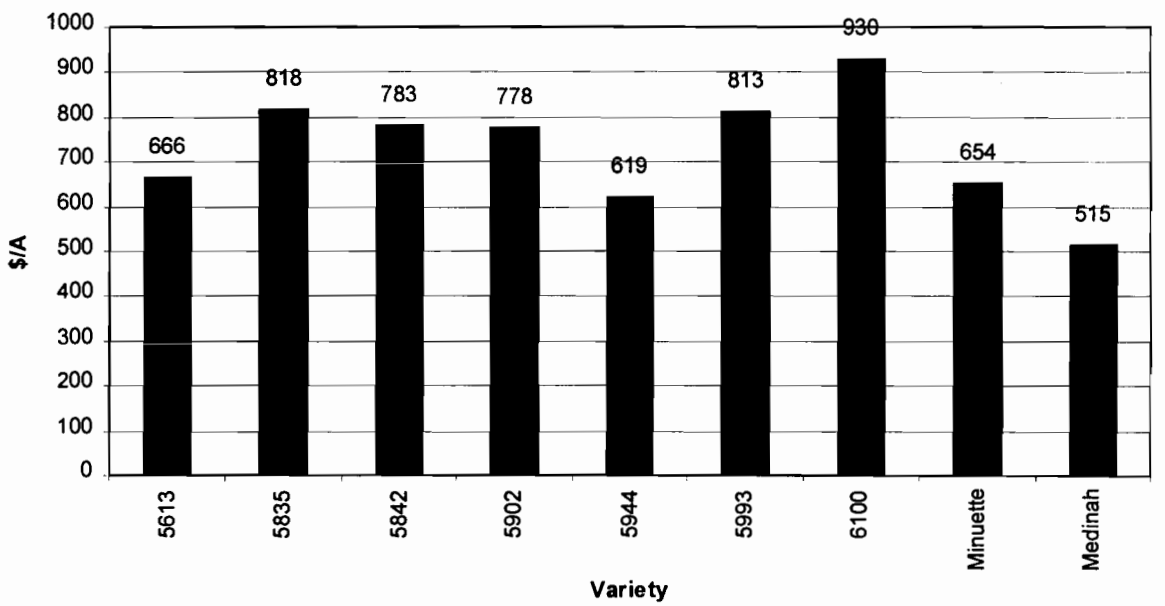

**Figure 7. Small Sieve Bean $/A 2002 - June 25 Planting**

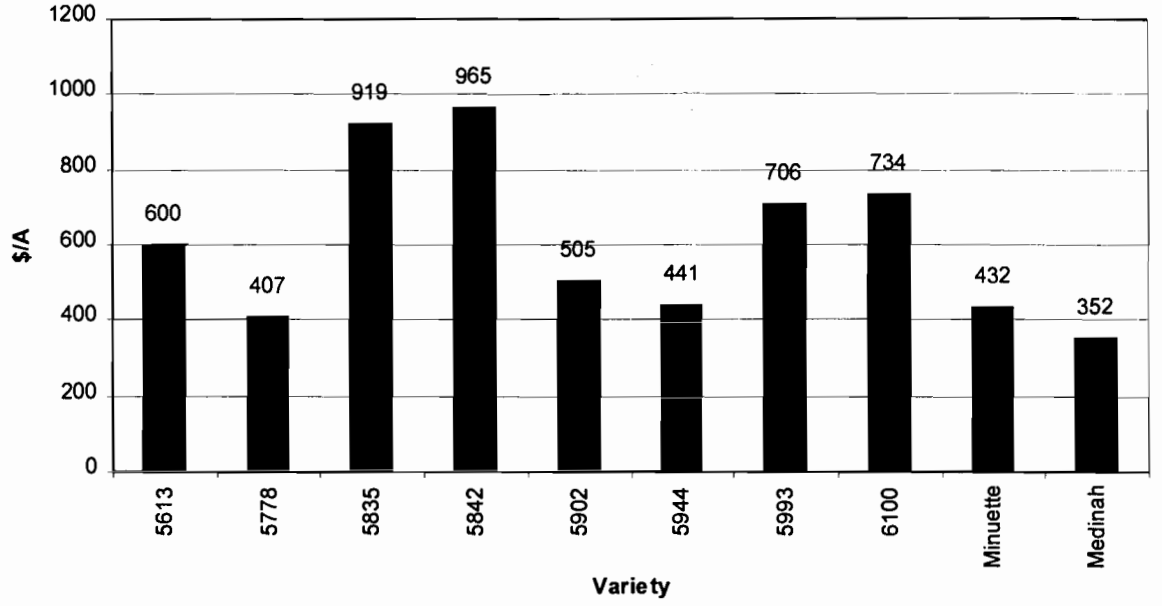


**Figure 8. Small Sieve Bean $/A 2002 Season Average - Selected Harvests**

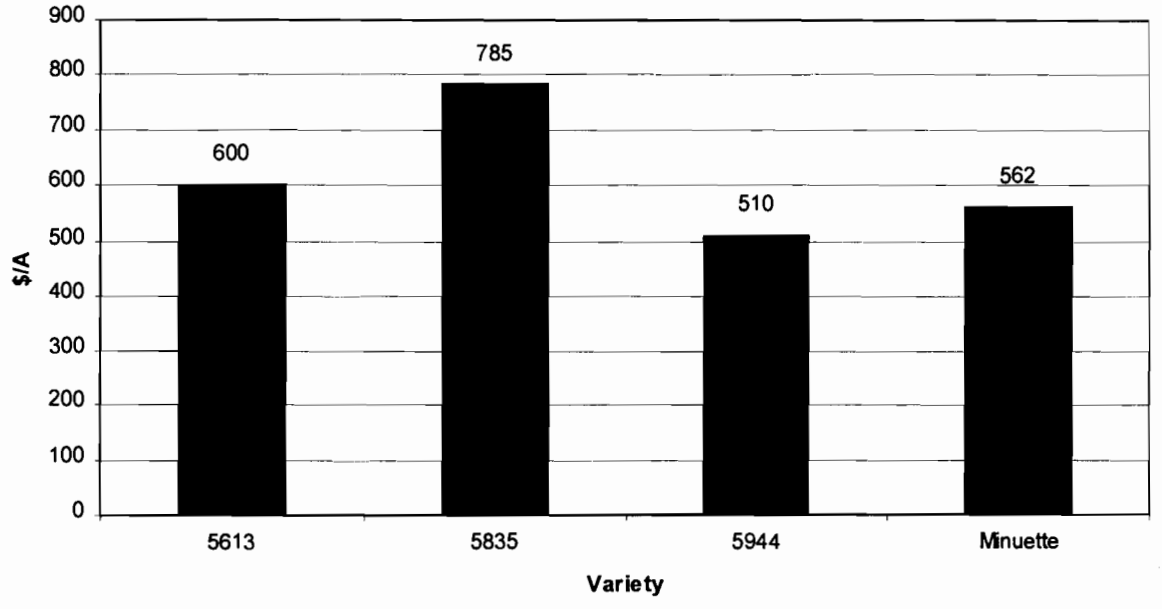

**Figure 9. Commercial Bean $/A 2002 - Full Sieve Varieties**

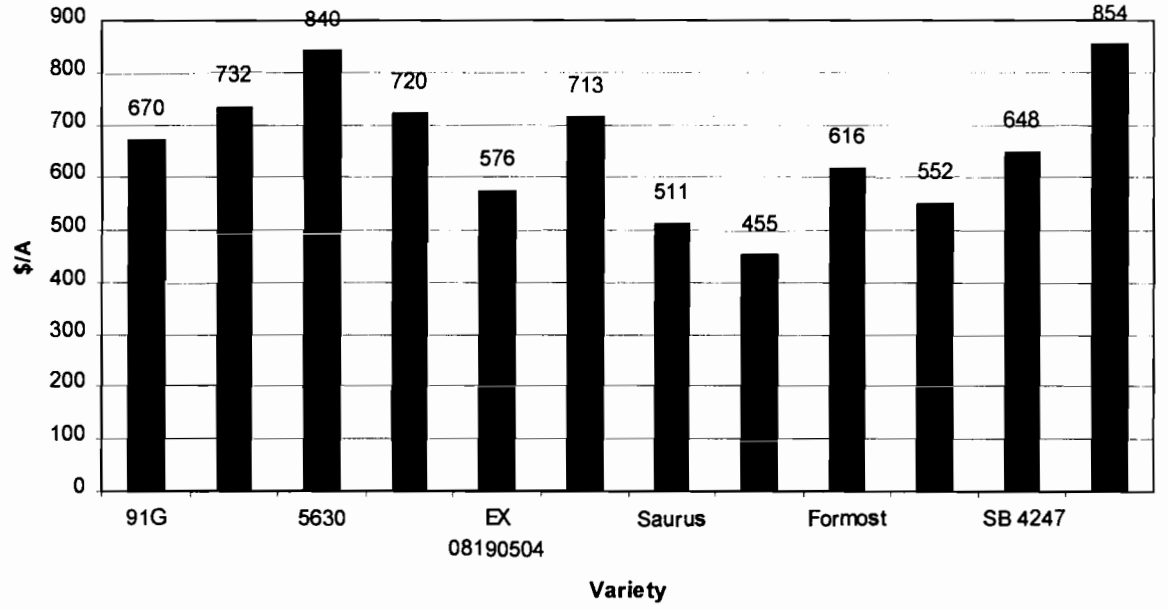


**Figure 10. Commercial Bean $/A 2002 - Small Sieve Varieties**

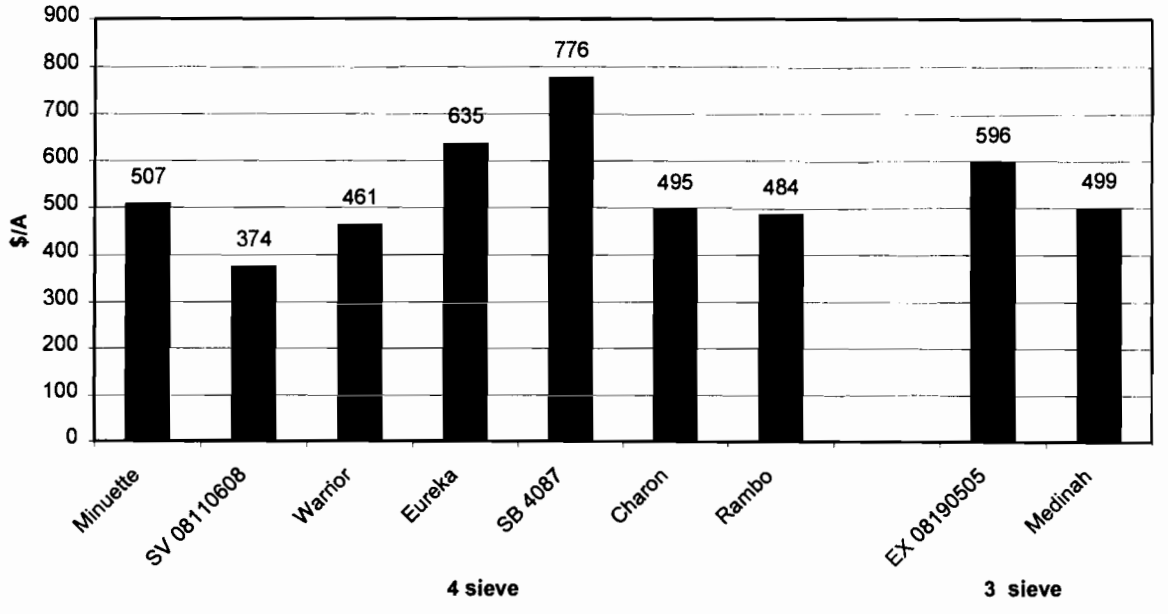

**Figure 11. Standard Bean $/A 2002 - Five Year Average**

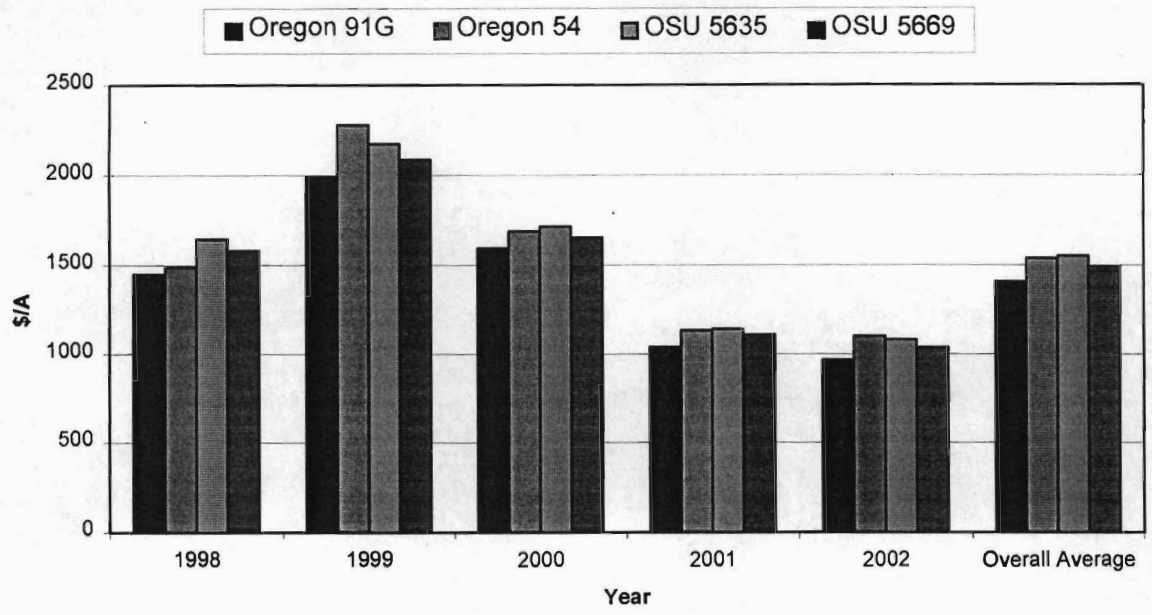


**Figure 12. Small Sieve Bean $/A 2002 - Two Year Average**

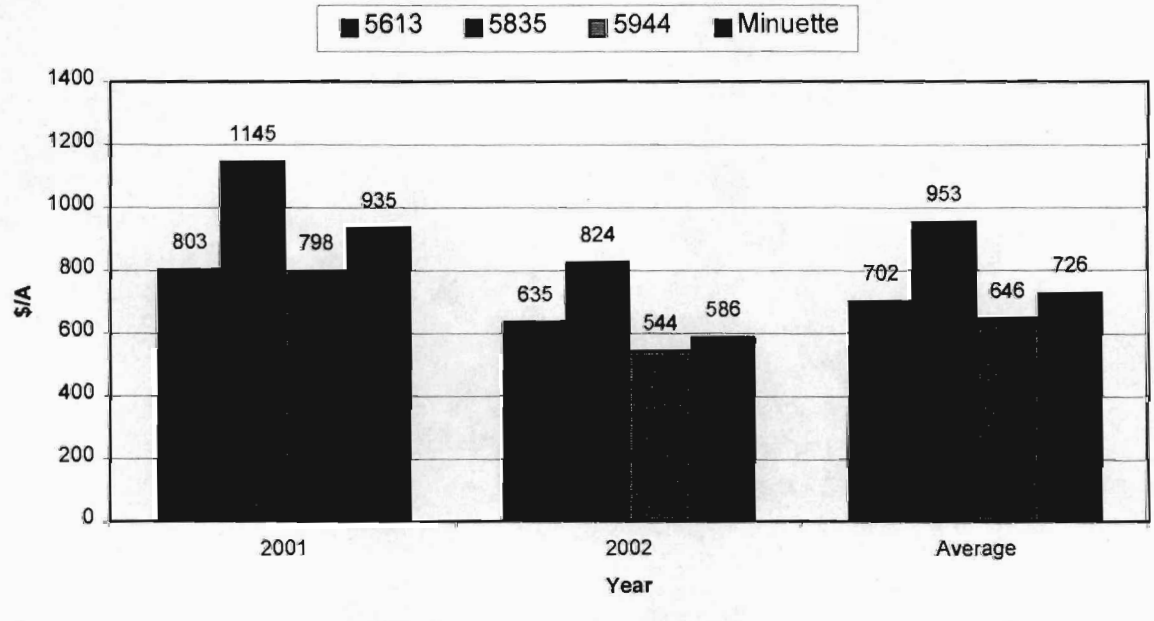

**Figure 13. %1-4 Sieve Distribution for Minuette x OSU 5630 Recombinant Inbred Lines 2002**

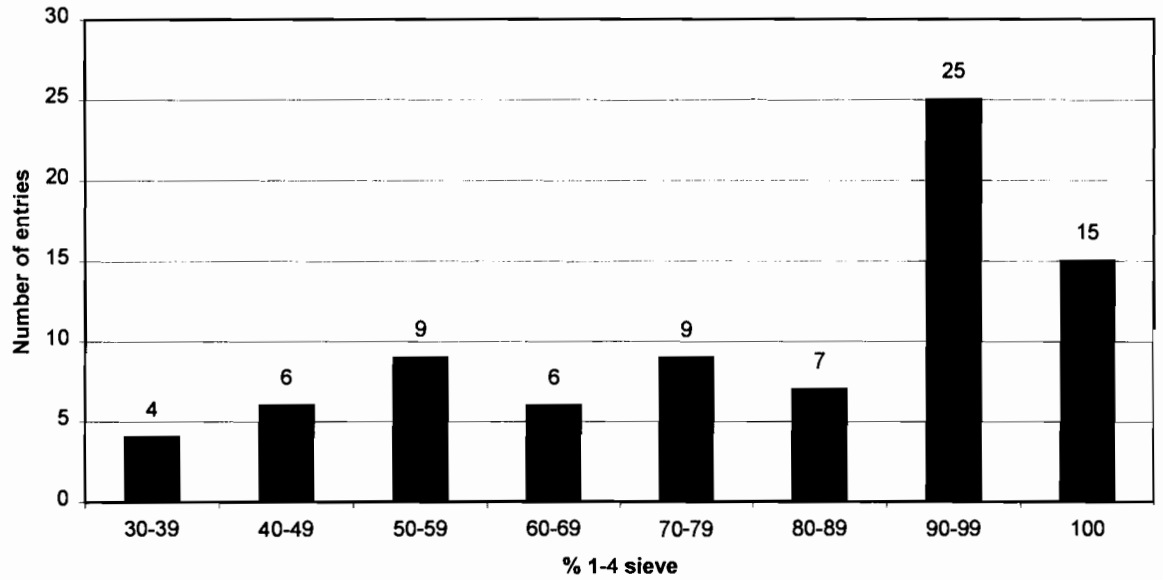


**Figure 14. Color Score Distribution for Minuette x OSU 5630 Recombinant Inbred Lines 2002**

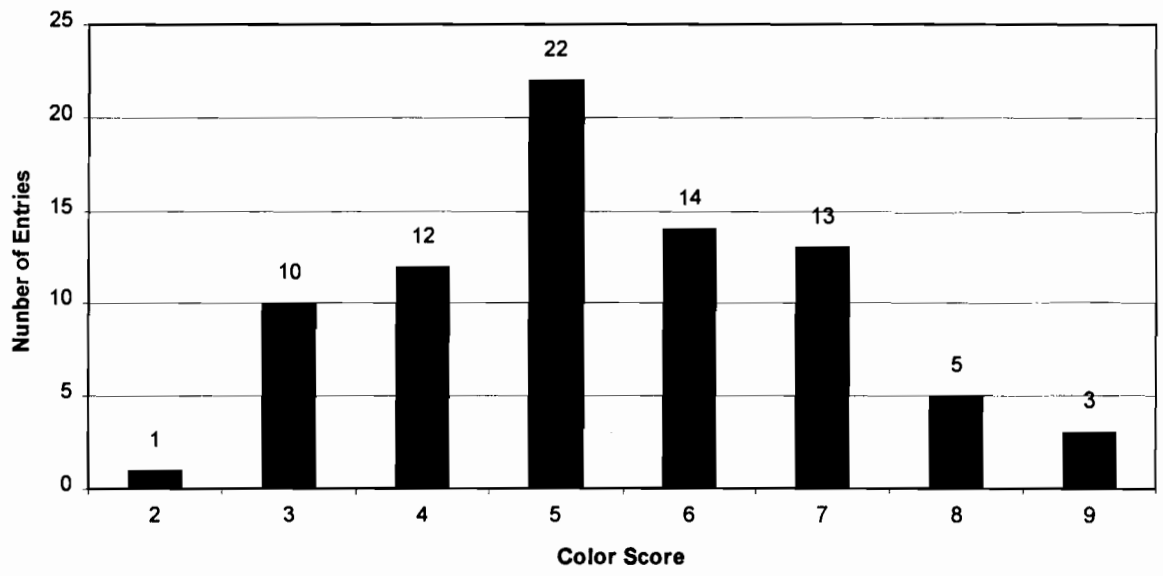

**Figure 15. Pod Length Distribution for Minuette x OSU 5630 Recombinant Inbred Lines 2002**

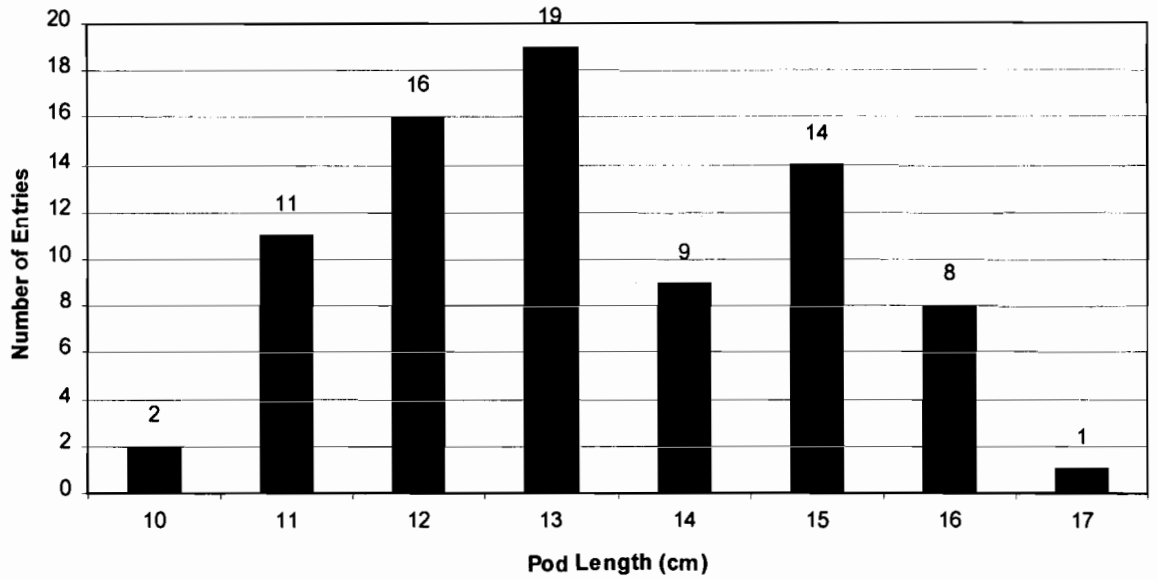


**Figure 16. Pod Straightness Scores Distribution for Minuette x OSU 5630 Recombinant Inbred Lines 2002**

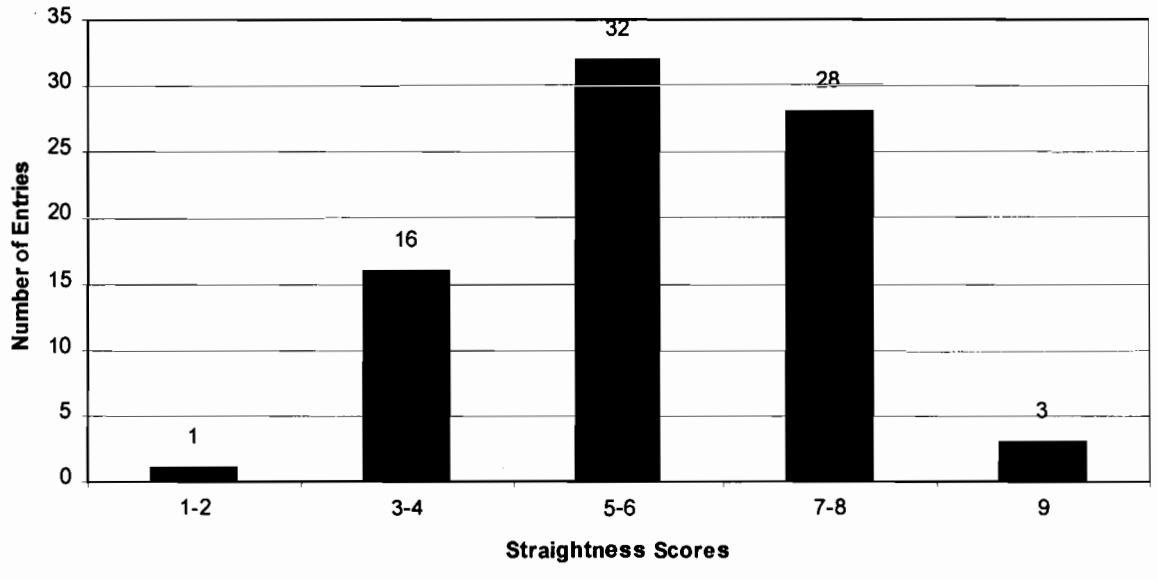

**Figure 17. Pod Smoothness Scores Distribution for Minuette x OSU 5630 Recombinant Inbred Lines 2002**

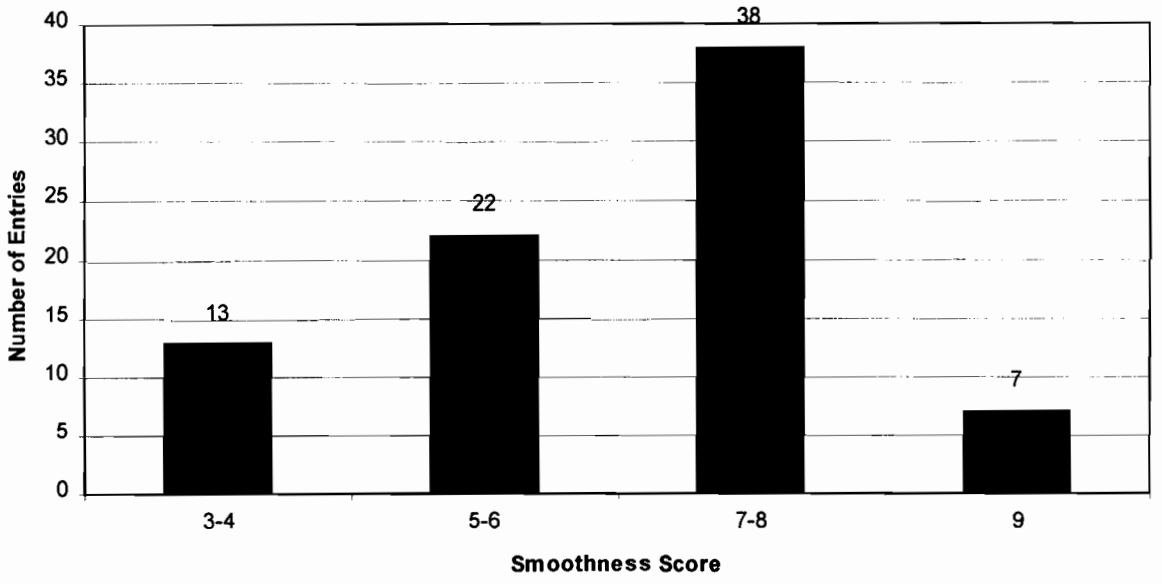


**Figure 18. Pod Width x Height Distribution for Minuette x OSU 5630 Recombinant Inbred Lines 2002**

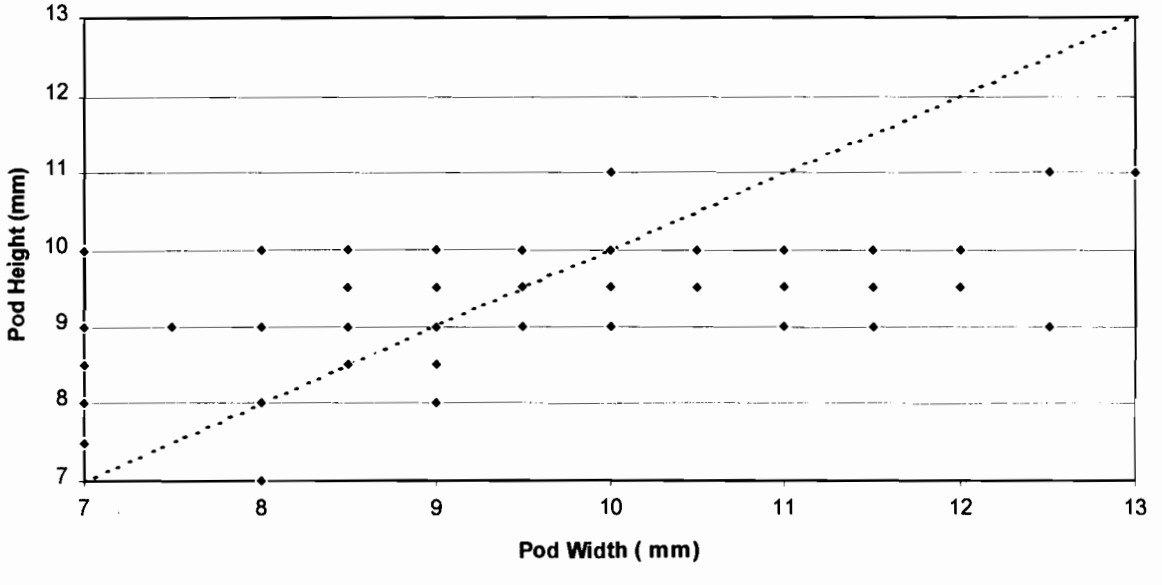

**Figure 19. Linkage map of the Minuette X OSU 5630 recombinant inbred population containing 63 random amplified polymorphic DNA (RAPD) and two morphological (*ace* = shiny pods, *phs* = phaseolin seed storage protein) markers. Common bean has 11 linkage groups.**

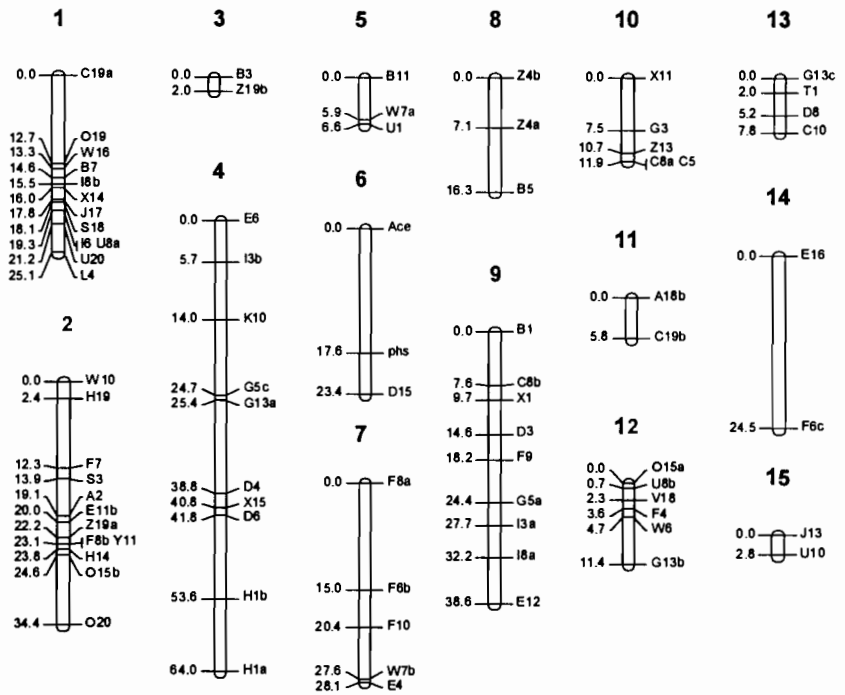


**Figure 20. White Mold Scored for Selected Line and Average for the Years 1998 - 2002**