

**Project No.: 13K-3455-5664**

**Title: Commercial Production Methods for Bosc Pear**

**Reporting Period: 1999**

**Personnel:**

- Gary Moulton, Scientific Assistant, WSU–Mount Vernon
- Jacqueline King, Technical Farm Laborer, WS–Mount Vernon
- Les Price, Service Worker, WSU–Mount Vernon

**Accomplishments**

A test planting of Bosc pear comparing productivity of selected rootstocks, training systems, and pollinizer varieties, was harvested for information on yield and commercial potential. All plots had fruit and were harvested, with records taken on yield per plot. Data for Bosc on different rootstocks also included fruit size per plot, measured as weight of 25 fruit. For the first time in 1999 there was sufficient fruit on the V-trellis for significant harvest data. This delay occurred because trees of Bosc on Quince A and C had to be grafted, which put them two years behind the rest of the planting.

**Results**

Yield data for all plots in production in 1999, taken at harvest, are shown in the tables included as Appendix A. Overall yield in this planting was well above that of 1998, as the trees enter full bearing (Table 1.) On the trees of Bosc/Provence Quince, yields were nearly double those of 1998 (179%) at the 4' spacing, and considerably above those of 1998 (138%) at the 8' spacing. Even greater rates of increase were seen in yields on Bosc/OHXF 217, after a relatively low year in 1998. At the 8' spacing the increase was 264%, and yield in the one plot at 4' spacing nearly tripled (295%).

The first year of significant production on the V-trellis trial indicated some differences in yield between the trees on the trellis and the free standing trees, particularly in Bosc/Quince A, where yields from the V-trellis were considerably higher. Yields of Bosc/Quince C were also slightly higher but not at significant levels (Table 2.) As the trees mature it will be interesting to note if this trend continues.

Trees of Conference and Concorde grafted on Quince C produced fruit in the first year after planting, and have continued to be productive. This encourages consideration of Quince stock that promotes early bearing and high productivity. In 1999, yield of Conference/Quince C was considerably higher (147%) than last year. For Concorde/Quince C yield was more than double (244%) that of 1998, and 124% of the high yield in 1997. Trees of Comice, which yielded heavily in 1998 at 316 lbs/plot, went down to 83 lbs/plot this year. Trees of Starkrimson, which have been late to begin bearing, produced a significant quantity of fruit in 1999. In previous trials this variety has been regularly productive, so we anticipate that future yields will increase accordingly.

At this point in the trial it appears that Bosc grafted on OHXF 217 and planted as free standing trees spaced 8' apart in the row is the most cost effective way of growing this variety. Yields per plot are high and fruit size large, while the costs of establishing an orchard are less. The lower tree density means less cost to acquire trees and free standing trees require much lower input for support systems.

**Publications**

None.

**Appendix**

**Table 1. Yield data for Bosc test plot, harvest 1999.**

| Cv./Rootstock       | Spacing | No. of Trees | Pick Date | Total Yield | Lbs/Tree | Lbs/Plot |
|---------------------|---------|--------------|-----------|-------------|----------|----------|
| Bosc /P Quince      | 8'      | 6            | 10/4      | 261         | 43.5     | 261      |
| Bosc /P Quince      | 4'      | 60           | 10/4      | 1,334       | 22.2     | 267      |
| Bosc /OHXF 217      | 8'      | 30           | 10/4      | 1,486       | 49.5     | 297      |
| Bosc /OHXF 217      | 4'      | 12           | 10/4      | 242         | 20.2     | 242      |
| Concorde/Quince C   | 8'      | 24           | 9/7       | 1217        | 50.7     | 304      |
| Conference/Quince C | 8'      | 24           | 9/23      | 1810        | 75.4     | 453      |
| Comice /Quince A    | 8'      | 6            | 9/20      | 83          | 13.8     | 83       |
| Starkrimson         | 8'      | 8            | 8/23      | 203         | 25.4     | 156      |

**Table 2. Yield and size of Bosc pear on selected rootstocks**

| Rootstock | Spacing | No. of Trees | Total Yield | Avg. Fruit | Lbs/Tree | Lbs/Plot |
|-----------|---------|--------------|-------------|------------|----------|----------|
|-----------|---------|--------------|-------------|------------|----------|----------|

|                      |    |    | (lbs) | (gm)  |      |     |
|----------------------|----|----|-------|-------|------|-----|
| OHXF 217             | 8' | 30 | 1,486 | 171.2 | 49.5 | 297 |
| OHXF 217             | 4' | 12 | 242   | 144.0 | 20.2 | 242 |
| OH/Provence Quince   | 8' | 6  | 261   | 176.0 | 43.5 | 261 |
| OH/Provence Quince   | 4' | 60 | 1,334 | 168.0 | 22.2 | 267 |
| Quince A             | 4' | 36 | 145   | 157.3 | 4.0  | 48  |
| Quince A - V Trellis | 4' | 36 | 235   | 154.6 | 6.5  | 78  |
| Quince C             | 4' | 36 | 322   | 174.6 | 8.9  | 107 |
| Quince C - V Trellis | 4' | 36 | 336   | 157.3 | 9.3  | 112 |