WALNUT ROOTSTOCK TRIAL 2000

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ABSTRACT

Reports that “own rooted” Chandler walnuts out performed grafted trees stimulated the creation of a replicated trial to investigate the performance of “own rooted” trees, trees grafted to three selections of paradox rootstock and trees grafted to a vigorous English rootstock. Rootstock trees were planted in March 1999. Tops were grafted with “own rooted” scion wood in the spring of 2000 and data collection will begin in 2001.

OBJECTIVES

The objectives of this trial are to validate or refute the following hypothesis:

1. Graft union has a limiting effect on tree growth and productivity.
2. Chandler is a superior English rootstock.
3. Clonal paradox has less variation than paradox seedling rootstocks.
4. “Own rooted” Chandlers are superior to Chandler on paradox.

PROCEDURES

The following six treatments are to be evaluated:

1. Own rooted Chandler via tissue culture.
2. “Own rooted” Chandler via tissue culture to be grafted to “own rooted” Chandler.
3. English (Waterloo) rootstock to be grafted to “own rooted” Chandler.
4. Common paradox rootstock to be grafted to “own rooted” Chandler.
5. “Trinta” paradox rootstock to be grafted to “own rooted” Chandler.
6. Clonal paradox (PX1), to be grafted to “own rooted” Chandler.

Small (3/8” diameter) rootstocks for these six treatments were planted on March 19, 1999 in a randomized block design with six replicates made up of two trees per replicate. Top working (grafting) took place in the spring of 2000. Initial tree survival data was collected in 2000. Data collection on tree performance will begin in 2001 with yield data being collected in the fourth and subsequent years.

RESULTS

Initial tree survival:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment 1</td>
<td>100 %</td>
</tr>
<tr>
<td>Treatment 2</td>
<td>100 %</td>
</tr>
<tr>
<td>Treatment 3</td>
<td>92 %</td>
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<tr>
<td>Treatment 4</td>
<td>58 %</td>
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<tr>
<td>Treatment 5</td>
<td>75 %</td>
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<tr>
<td>Treatment 6</td>
<td>100 %</td>
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