In order to evaluate the influence of various rootstocks on peach tree disease resistance, fruit quality and vegetative growth, a peach rootstock trial consisting of 14 newly developed or imported rootstocks was planted at the Chilton Research and Experimental Center (CREC) near Clanton in 2009.

The experimental block comprised of the following peach rootstocks: ‘Guardian’ and ‘Lovell’ (standards), ‘Viking’, ‘Atlas’, ‘BH-5’ (Bacterial canker resistant), ‘Krymsk 86’ (wet feet tolerant), ‘KVO10123’, ‘KVO10127’ (USDA breeding program), ‘Empyrean 2’, ‘HBOK 10’, ‘HBOK 32’, ‘Krymsk 1’, and ‘Controller 5’ (size controlling rootstocks). ‘Redhaven’ was used as a scion cultivar. Experimental design is a completely randomized block with eight single-tree replications. Data on peach tree vegetative growth including trunk circumference, tree height and width, number of suckers per trunk, and tree survivability were collected during 2009-2011.

Our results indicate significant differences of the Julian date of 90% open flowers among the fourteen rootstocks in the trial in 2011 (Table 1). Trees on Controller 5 had the latest flowering date (73.8), while trees on HBOK 10 flowered early, on the 70.4 Julian date.

Trees on Guardian, Mirobac, and BH-5 were once again the most vigorously growing in 2011, based on their trunk cross sectional area (Table 1). For the third consecutive season, HBOK 10 and HBOK 32 demonstrated the least tree vigor of 23.7 and 36.2 cm² TCSA respectively.

Trees on Guardian were found to have the highest number of suckers in their third growing season (1.9 suckers/tree on average). BH-5 and Lovell were also found to produce a few root suckers.
In addition to one tree grafted on HBOK 32 that died in 2009, two additional trees grafted on Krymsk®1 and Emparyan®2 (Penta) died in 2011 (Table 1).

Based on tree height and width, trees grafted on Guardian, Mirobac, BH-5, and Atlas were found to be vigorously growing, while HBOK 10 had the least canopy growth in 2011 (Table 1).

Table 1. Field performance of 'Redhaven' peach grafted on 14 rootstocks, Clanton, AL, 2011.

<table>
<thead>
<tr>
<th>Rootstock Cultivar</th>
<th>Julian day of 90% Open Flowers</th>
<th>TCSA, cm²</th>
<th>Number of root suckers</th>
<th>Survival rate</th>
<th>Height, cm</th>
<th>Width 1, cm</th>
<th>Width 2, cm</th>
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<tr>
<td>CONTROLLER 5 (K146-46)</td>
<td>74</td>
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<td>96</td>
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<td>460</td>
<td>453</td>
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<td>EMPYREAN ®2 (PENTA)</td>
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