Understanding Landscape Cultivars

"*P*erformance" *seems like a strange term to use with trees, but that is exactly what is expected when we plant along streets or in parks and yards. Cultivars help deliver what is needed, usually through genetic improvements. Through an understanding of cultivars, trees and planting sites can be better matched, more benefits can be derived from trees, and money can be saved by having a healthier community forest.*
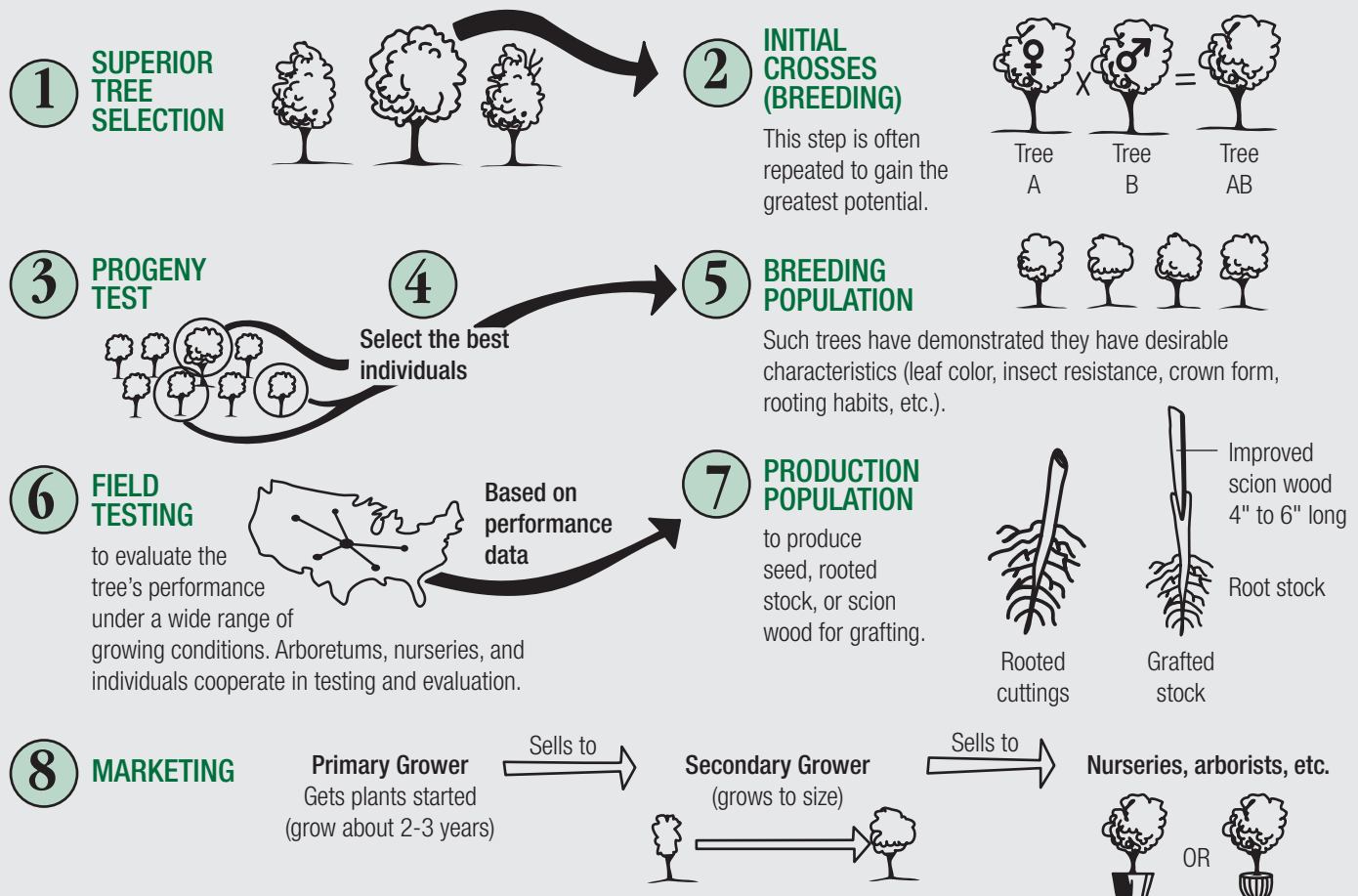
WHAT CULTIVARS CAN DO

By selecting a cultivar with a trait that can solve a problem, it is possible to:

- Reduce the need for chemical pesticides, thus saving money, reducing environmental impacts, and preventing citizen complaints.
- Reduce maintenance hours, freeing crews to do more productive things like systematic pruning.
- Improve tree health, thereby reducing dead limbs and other public safety risks.
- Predict crown size and root space needs, helping to best match trees to specific sites.
- Enhance aesthetics through more diversity of flowers, foliage, and form — or where desired, through uniformity in plantings.
- Eliminate the nuisance of fruit dropping.
- Reduce removal costs by extending tree life.

THE GENETIC IMPROVEMENT PROCESS

Here is a simplified diagram of the selection and breeding process that taps the power of genetics to develop new cultivars.

1 SUPERIOR TREE SELECTION

2 INITIAL CROSSES (BREEDING)

This step is often repeated to gain the greatest potential.

Tree A X Tree B = Tree AB

3 PROGENY TEST

4 Select the best individuals

5 BREEDING POPULATION

Such trees have demonstrated they have desirable characteristics (leaf color, insect resistance, crown form, rooting habits, etc.).

6 FIELD TESTING

to evaluate the tree's performance under a wide range of growing conditions. Arboretums, nurseries, and individuals cooperate in testing and evaluation.

Based on performance data

7 PRODUCTION POPULATION

to produce seed, rooted stock, or scion wood for grafting.

Improved scion wood 4" to 6" long

Root stock

Rooted cuttings

Grafted stock

8 MARKETING

Primary Grower
Gets plants started
(grow about 2-3 years)

Sells to

Secondary Grower
(grows to size)

Sells to

Nurseries, arborists, etc.

OR