

Robb Sloan: How were the cuttings treated with the fungi?

Carolyn Scagel: It depends on the inoculum type. For some we mix the soil inoculum containing spores and root fragments with the rooting medium or I prefer to cut into the rooting medium, insert the inoculum medium and then insert the cutting.

Discovering and Patenting a Chinese Pistache Tree: *Pistacia chinensis* 'Pearl Street'[®]

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INTRODUCTION

The Chinese pistache tree has long been a popular tree in temperate areas of the United States. This species originates in areas of China, Taiwan, and the Philippines, and is suitable for many areas of the world. Known for the brilliant fall colors of red, orange, and yellows in early fall, it is a medium grower to 40 ft in height with a spread of equal dimensions. Chinese pistache is an excellent street, lawn, yard, parking lot, and park tree.

About Modesto. *Pistacia chinensis* is one of the most popular trees grown in the greater Central Valley of California. A deep-rooted tree, it has little or no surface rooting or root conflicts near pavement. A species requiring less moisture than most trees and having very few disease or insect problems in healthy trees in the proper growing environment.

Pistacia chinensis and a popular cultivation 'Keith Davey' grow more open and spreading, which can conflict with traffic or buildings nearby. The industry needed a seedless, male, upright *P. chinensis* that would grow alongside buildings and streets with no conflicts.

Modesto's Urban Forest consists of over 100,000 public trees along streets, parks, and golf courses. Modesto is historically known for its forests diversity, unique management techniques, and as a testing ground for species and IPM research. With national awards and titles, Modesto is truly a "Tree City, USA".

As one of the first ever trees patented by a municipality, Modesto was visited by the plant patent examiners themselves to see the *P. chinensis* 'Pearl Street' (Plant Patent #9,242) in 1996. The patent, on first application was described as "perfect".

THE PLANT PATENT APPLICATION

An application for a plant patent is made to the Commissioner of Patent and Trademarks.

A plant patent is a grant by the Government to an inventor (or his heirs or assigns) who has invented or discovered and asexually reproduced a distinct and new cultivar of plant, other than a tuber propagated plant or a plant in an uncultivated state, the grant being the right to exclude others from asexually reproducing the plant or selling or using the plant so reproduced for 20 years.

New and distinct varieties of plants fall roughly into three classes: (a) sports, (b) mutants, and (c) hybrids. In the case of sports, the new and distinct cultivar results from bud variation and not seed variation. A plant or portion of a plant may suddenly assume an appearance or character distinct from that which normally characterize the cultivar or species. In the case of mutants, the new and distinct cultivar results from seedling variation by self-pollination. In the case of hybrids, the new and distinct cultivar results from seedlings of cross-pollination of two species, of two varieties, or a species and a cultivar. In this case, the word "hybrid" is used in its broadest sense.

The characteristics that may distinguish a new cultivar of plant would include, among others, those of habits; immunity from disease; resistance to cold, drought, heat, wind or soil conditions; color of flower, leaf, fruit or stems; flavor; productivity, including ever bearing qualities in fruits; storage qualities; fragrance; form; and ease of asexual reproduction.

The new plant cultivar:

- Must have been asexually reproduced by the applicant;
- Must not have been described in a printed publication nor introduced to the public nor placed on sale more than 1 year before filing the application;
- Must have originated either (1) as the result of some act of cultivation by the applicant, e.g. cross pollination, treatment, selection, and/or breeding efforts; (2) as a seedling found by the applicant in a cultivated area; or (3) as a sport found by the applicant.

THE PATENT

The following text is the plant patent as it was sent to the patent office.

The present invention relates to a new and distinct male cultivar of Chinese pistache tree of the species botanically known as *Pistacia chinensis*. We have named our new cultivar 'Pearl Street'. We discovered this new cultivar as a chance seedling of unknown parentage growing as a planted street tree near Pearl Avenue in Modesto, Calif. This individual tree had been noticed for nearly 10 years for having grown tall and rigidly upright. The other 6000 plus pistache trees within the City are more open and spreading with a lower scaffold pattern and shorter overall height. The 'Pearl Street' is unique in its upright growing habit. Close observations of this seedling and continued observations of progeny thereof subsequently asexually propagated under the arborist direction by budding on seedling *P. chinensis* understock, has confirmed that the unique characteristics of this new cultivar are a result of a seedling variation. We are, therefore, convinced that our new tree represents a new and improved cultivar of *P. chinensis*, as particularly evidenced by the following unique combination therein, and which distinguish this new cultivar from other varieties of this species:

- A unique habit of growth resulting in a denser, upright-branched crown that is broadly globe-shaped and taller than the species or the 'Keith Davey' cultivar;
- Scaffold branches upright and forming higher on the trunk. Primary scaffolds showing stronger apical dominance than the species or the 'Keith Davey' cultivar;

- A growth rate which is much faster than the species or 'Keith Davey', from budded starts (bud shoots pushing 18 to 24 inches the first season; second season shoots reaching 5 to 7 ft in height);
- Trunks are vertical and well-tapered showing strong apical dominance with little or no side shoots until the primary scaffolds appear;
- Secondary and tertiary scaffolds continue to be angled upward as they grow with few, if any, horizontal or down turned branches. Branch attachments are strong.

SUMMARY

Upon contacting the Commissioner of Patents, Washington, D.C. 20231, a packet will be delivered to you which contains the application and instructions. Included with your packet will be forms for "Small Business Entity", which is for discounted fees. There will also be the form for an Assignment of Rights. This assignment is for the inventor that is working for a company or firm that will own the patent.

The important part of the patent is of course the declaration and claim, which explains your new plant and any comparisons. The patent office will do a "patent search" for any other patents on the same species. Your plant must be plainly different from others that are already in cultivation.

The *P. chinensis* 'Pearl Street' was the first *Pistacia* patented so it was a relatively easy patent search. Patent searches are done abroad as well as in the United States. Many plants are only Trade Marked and do not hold a patent. This means the name of a plant is a protected asset.

All of the color described must refer back to the RHS Color Chart, which is a standard reference for plant color identification. A copy of this reference can be found at most university libraries or write to: RHS Colour Chart, RHS Enterprises Ltd., RHS Garden Wisely, Woking, Surrey GU236QB.

Since a patent is valid for only 20 years, do not apply for one until you are ready to introduce the plant and produce it. You can lose valuable years of royalties if there is a production problem.

CONCLUSION

Novice horticulturist and propagators can do plant patents. The degree of difficulty of course will vary with the species. The really difficult work is identifying, reproducing, and growing the new plants.

With intimate knowledge of your plant, some homework, obtaining advice from experienced professionals and calling on the Plant Patent Office examiners, you can do it! The time line will vary. You can estimate 9 to 12 months to do the work to obtain a patent. Avoid the extra expense and longer wait associated with amending an application. Thoroughly prepare and check your application before mailing it. It must be perfect.