

## The Process of Testing and Introducing a New Plant

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When a new plant makes its entry into the world of retail nurseries, it comes with a fascinating history behind it. For many plants, their beginning started with the hybridization process. Some new plants, however, were chance seedlings that Mother Nature saw fit to bless a grower with, while others were sports that popped up in plants and were noticed and developed by their astute owners.

Hopefully, for most plants that are introduced into the nursery trade, there has been considerable time given to testing and trialing to determine the stability and uniformity of the plant. Failure to do so may lead to unhappy customers and sometimes embarrassment for the grower who developed it.

In the process of developing a new plant for the nursery trade, the hybridizer spends many years and sometimes a lifetime working on specific plants. She or he may make thousands of pollen crosses and save millions of seeds and grow and evaluate unfathomable numbers of plants before one may finally meet his expectations. As the hybridizer evaluates each seedling, she or he is looking for a variety of qualities which might include; color, size, or shape of leaves; flower color, shape, and perhaps fragrance; the habit of the plant, its vigor, and the overall impression that the plant gives. Some of the seedlings may meet most of the standards but fall short in one or more areas. If breeders set their standards high, and have been fair in their evaluations, they will continue to cross those plants until they get their ideal specimen. Once that has occurred, they will set about testing it in various situations.

Many hybridizers work with trialers all over the U.S.A. and Europe who are interested in the same genus. The criteria hybridizers look for are; various geographical areas, growers with various types of greenhouses, and associates with various degrees of nursery skills. It is usual to select trialers for their potential to be future producers. Some growers will use up to 17 various sites for testing. The hybridizer will usually have a formal agreement with the trialer specifying that the plant will not be propagated and that the tester will agree to dispose of the plant should the hybridizer decide that it doesn't warrant further development. Clonal material of the plant is then sent to these associates for them to test.

The new plants are tested in containers as well as in nursery beds. The reason for this is that many plants will show different characteristics when planted out into a variety of soils. One of the main reasons for sending plant material to various locations is to see how the plant will respond to these different soils and climates. Through the growing period, testers log information about the plant. Information such as disease and pest resistance, heat and humidity tolerance, and hardiness are very important to the hybridizers for their evaluations. Plants are tested for a minimum of 1 year and sometimes much longer.

Many seed companies will do their own trialing. They will then send seed they feel has merit to the All-America Selections (AAS) trials which are held at 47 trial grounds in 30 states and provinces in the U.S.A. and Canada. Each site has a judge who evaluates the plant on basis of color, disease resistance, insect and weather stress, prolonged flowering, uniformity, uniqueness, and fragrance. Judges submit their score sheets for tallying and each January the Board of Directors of the All

America Selections meets to determine the next year's winners. The winners are announced the following September.

Tissue culture is another process that is being used by some growers to help in their testing process. Plants that have merit are being sent to laboratories where they can be checked for viruses. It has been shown that viruses can affect the ability of the plant to be propagated as well as its performance in the garden. By cleaning up the plant material, more high-quality plants are becoming available.

Plants that develop as chance seedlings or sports should be treated similarly to hybridized plants and should be tested with as much diligence as possible. Growers sometimes get so excited in the discovery of a new plant that they forget to test for deviations within the new cultivar. With the thrill of having such a unique plant, the grower is often driven more by the desire to make money than the need to trial the plant. Plants thought to be dwarf sometimes end up full size and plants with unique flower color may revert back to their original parent color. Many plants that have been introduced into the trade, after a substantial period of time, are discovered to be rampant weeds. Plants, which run invasively, or reseed so badly that the gardener has trouble controlling them, give the growers a bad name. If they had been trialed adequately, these characteristics could have been discovered before the release of the plant.

With the current trend toward variegated plants, it is important in the testing process that the grower looks at the stability of the variegation. As many of the variegated plants come from sports on all-green plants, those sports will sometimes revert back to their parent type. Adequate time should be allowed to test these plants thoroughly.

Probably the hardest thing to do in the trialing process is to cull and destroy plants that are not quite good enough to be carried on in the propagation line. It is very difficult to throw out beautiful and sometimes great plants even though they don't meet the tough standards set for them. How many plants have become cultivars because the grower was unable to decide on which plant to save and which to cull? How many "cultivars" of one species are too many? With many plants being promiscuous in their reproduction, there are sometimes lots of seeds with which to experiment. It is up to the grower to decide on the very best. It is the grower's responsibility to throw out the mediocre ones and save only those that will best represent the species. The most reputable grower creates new plant introductions that are of high quality and are valuable assets to the garden for the long term.