

number of customers who then buy some of the "bread and butter" items in the nursery. Therefore I think they pay their way by drawing in customers looking for the rare and unusual.

EDITOR'S NOTE: The following four papers by Wayne Mezitt, William Flemer III, Richard Jaynes, and James Cross are all part of a panel discussion: *Maintaining Credibility in Plant Introductions*. Wayne Mezitt was moderator.

MAINTAINING CREDIBILITY IN PLANT INTRODUCTIONS I

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Over the last several years the nursery industry has experienced an upsurge in the number of new cultivars becoming available. As progressive as this trend appears on the surface, the implications become far deeper as we explore the commitments that follow. This situation offers large potential rewards along with some special challenges. I believe our industry currently has a real need for self examination; we as propagators are probably in the appropriate position to begin the process.

WHY DO NEW PLANTS INTEREST US?

Many aspects of new introductions are exciting to propagators, growers and horticultural salespeople. Primary to many of us is an improvement in quality of one or more of these characteristics: cold hardiness, heat tolerance, adaptability to stressful climates, better color in flower or foliage, improved growth habit, flowering season, fragrance, seasonal appeal, and numerous other advantages. Improvements that make it easier for the ultimate customer to be successful and happy with his/her purchase of the new cultivar are also of interest.

A second area of interest includes resistance to such problems as insects and diseases; tolerance of soil compaction; wet or dry growing conditions; adaptability to sun or shade, wind, short seasons, etc.

A third area appeals especially to the grower. Qualities, such as ease of propagation; ability to produce a saleable plant that looks good to the customer; and the ability of a new cultivar to "make up", dig and ship successfully are all vitally important in creating a large market for it.

A fourth area concerns economics. No matter how good we feel a plant may be, it is of little value unless the customer wants it. Customer demand can be created by marketing and promotion or by merely the appealing appearance of the plant in the landscape or sales area. It is this potential for large economic gain that seems to be creating the desire among many nurserymen to grow many new cultivars.

THE ROLE OF TISSUE CULTURE

With the advent of improved propagation techniques, primarily tissue culture, the "normal" plant introduction cycle seems to have been shortened from years to mere months. The tissue culture process, which became economically feasible less than 10 years ago, appears to have been the catalyst in making a plethora of cultivars at relatively low prices in large quantity all available at once. Many cultivars currently offered for sale are new or have been previously available only in limited quantities. The market among growers for these new improvements seems to be nearly insatiable even in those types not yet produced by tissue culture techniques.

There also seems to be a change occurring among growers that causes them to alter their previous conservative approach to trying new plants. Perhaps the sheer number of new cultivars being promoted or specified by landscape architects contributes to this increase of interest. Retail customers may also be asking for better or more interesting landscapes. The upsurge of interest in new cultivars by members of specialized plant societies has probably additionally contributed to it. Whatever the reason growers have become far more willing in recent years to take a chance with new introductions.

THE PROBLEM

In our haste to meet the anticipated demand for new cultivars, many propagators appear to be compromising the normal quality-evaluation stage of product introduction. This dangerous trend is manifested both in the methods we use to choose which new plants to grow and in the propagation process itself.

Some of our methods call for serious examination. Part of the problem is that our industry is hampered by the difficulty and complexity of properly testing the product before it is released. Today's fast-moving market no longer allows the extensive evaluation previously afforded new introductions. How extensively has the new cultivar been tested to determine that it is better than its counterparts already on the market? Should we predicate our decision to produce a new plant on evaluations by only the introducer himself? How many years has the plant been available for evaluation? Who are the evaluators? What is the criteria for evaluation? What are the drawbacks as well as the advantages of the new cultivar?

We propagators have always wanted to share our new plants with each other because we consider ourselves part of the "same big family". This feeling of mutual trust can be undermined when motives other than pure horticultural interest begin to assume a higher priority. Unbridled enthusiasm can lead to hasty decisions which adversely affect our ability to make good judgements. Some people lose sight of the intent of the hybridizer and try to do more with the new plant than is practical. But worse than these relatively innocent problems are the purposeful actions motivated by a selfish business person who tries to take advantage of the work of others for unreasonable personal gain. Even though we see far less of this latter activity in the nursery industry than in other industries, it has ominous potential to override the very personal trust upon which our industry is predicated.

This type of ethical transgression can occur any time a hybridizer distributes plants outside of his own operation for testing and evaluation. The fact that the plant is being evaluated in a normal growing site means that it is accessible to other people and that the hybridizer no longer has control of it. Hybridizers have attempted to reduce the risk that others will propagate their cultivars by selecting evaluators carefully, by using codes rather than names, by patenting or trademarking the cultivar, or other techniques. Most of these methods are less than totally effective in preventing premature distribution. And in many cases it is excessively expensive to do these things, especially when more than a small number of cultivars must be evaluated. But as serious as the potential is for problems, most hybridizers and evaluators have avoided major catastrophe by maintaining a high measure of personal involvement. As of yet the distrust and secrecy so prevalent in other industries does not appear to have gained a foot-hold in the nursery industry.

The process of propagation itself also poses some perplexing problems. As difficult as it is to identify cultivars of similar plants in normal propagation, it is nearly impossible in the early stages of tissue culture. Because such large numbers of plantlets are produced from so few pieces of the parent plant, a mistake in choosing the stock plant can result in thousands upon thousands of improperly-named plants being distributed before the error is discovered.

There also seems to be some evidence of increased probability of mutations or changes in characteristics of some plants produced from tissue culture. Thus, if the new introduction proves to be different than expected, the grower must rely more than ever on the integrity of the propagator.

OBLIGATIONS TO OUR CUSTOMERS

The nursery industry, if it is to retain the credibility we have

created over the years in the minds of our customers, must satisfy certain expectations. Our products must be true-to-name and perform as we advertise and as our customer expects. The plants we sell must perform well in the landscape with reasonable care. We must avoid confusing our customers with too many choices lest we drive them to purchase easier-to-choose products. We must insulate our buyers from our own errors such as overproduction, an inferior product, or a poor value.

The consequences of failing to meet these obligations will be unfortunate for our entire industry. In the short term we will encounter disappointed customers, contend with annoying complaints and costly replacements, and begin to increase the skepticism of our products in the minds of the public. The longer term will cause our customers to move away from unrewarding purchases and begin to develop a distrust of new plant introductions, even truly worthy ones. The end result may well be an unwillingness of our potential customers to trust many of the services we perform and even perhaps to demand stricter regulation by government of our activities.

THE PROPAGATOR'S OBLIGATION

I see several actions we must take as plant propagators to protect ourselves and our industry against an erosion of credibility in the mind of the public. These needs apply to all the plants we propagate but are particularly critical in regard to new introductions.

First we must develop, use, and respect industry standards for evaluation and testing of improved cultivars. Many plant societies already are using some criteria as are some arboreta, universities, and plant introduction stations. The "All-America" program seems to have many appealing aspects. But even private and individual hybridizers and selectors must have evaluation standards and guidelines by which to begin to judge the merits of their selections.

Second, as propagators we must insist upon the trueness of our stock before we propagate it. We must stand behind the claims we make and be absolutely sure of our source. We must have the ability to test our propagations ourselves before distributing, and refuse to let inferior selections get to the market. And I believe that to prove our commitment we must be willing to buy back any mistakes that we make by distributing wrongly named plants.

Third, before advertising and promoting a plant, we owe our customers the assurance that such plants are available to them in reasonable quantities. Plant material is not an "off the shelf" item, particularly in landscape sizes. This process requires a major production commitment and knowledge of the marketplace as well as utilization of proper channels of distribution.

Lastly, we owe our customers (and ourselves as well) the obliga-

tion to control the urge to overproduce. The familiar cycle of overproduction and shortages that plagues our industry results in destabilizing market fluctuations of availability and price. Nothing can be as frustrating to a customer as discovering the cultivar that was in such good supply last year is scarce and over-priced this year (or vice-versa). This problem can be solved with proper planning and effective product management programs in our own businesses.

I would like to introduce our panel and ask each of them to share their concerns and ideas on plant introductions. Each of them has a strong commitment to a different aspect of the nursery industry. Each has been involved with selecting, introducing, and selling new cultivars.

MAINTAINING CREDIBILITY IN PLANT INTRODUCTIONS II

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For the past 20 years our small nursery, which grows woody ornamental plants for the wholesale market, has been deeply involved in a continual process of building and maintaining a product line consisting primarily of relatively hard-to-find plants. Our selection criteria gives heavy emphasis to dwarf and slow growing plants. The majority of our ornamental plants are not "new" selections, just known but neglected plants.

The very nature of the selection process that we followed up to the advent of micropropagation provided a pace and built-in discipline, which helps assure a fair amount of test and evaluation time in the climates into which we market our plants. The typical starting point would be a single, small plant or a half dozen cuttings, a couple of progeny of which would go into the garden or stock area for observation. If, over the next few years, we liked what we saw, we would run a couple of dozen plants through our production system to see how they performed. By the time we moved to a trial crop of 100 to 200 plants, there has been a lot of time to communicate with others who have had experience with this plant, to evaluate its ornamental qualities in our climate, to test garden culture, to test its adaptability to the nursery production process, and even to test market through friends and customers and a few customers of our customers.

This procedure, with its very moderate pace, contrasts quite sharply with what we are beginning to witness in these early years of woody plant propagation by tissue culture. There is something