Shingle oak established well except at Colby. Evodia did well, but some loss was experienced during late summer, 1986, or during the 1986–87 winter.

'Legacy' sugar maple had not grown notably at any location, wheras the 'Caddo' selection had grown at all sites. The most dramatic growth was by Evodia.

1987 and 1988 Plantings. The 1987 and 1988 evaluations showed that Amur cork did not perform well at most locations. Sawtooth oak did well at all locations except Garden City, where it suffered from chlorosis. Red maple performed better than expected at locations where it survived. Foliage quality of the 'Greenlace' Norway maple scorched at the more westerly locations.

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A CRISIS IN CULTIVAR NOMENCLATURE

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The ability of our nursery industry to function smoothly and fairly is dependent upon, among others, the use of correct and consistent names to our plants. The rules of nomenclature for cultivated plants have for many years controlled, rather successfully, the proper use of cultivar names. This resulted in a system that assured relatively uniform names throughout the industry, avoided most improper cultivar names, and gave everyone an opportunity to sell cultivars under their correct names. The only exception to this situation concerned the sale of patented cultivars where royalty agreements protected patent owners against unauthorized propagation and sale of their plants. Trademarking, a relatively new practice, however, threatens the availability of horticultural cultivars beyond the constraints of the plant patent law.

In order to understand more fully how the practice of trademarking has affected our industry several examples are given below. It should be understood, however, that there are no clear solutions to the problems and that the examples are meant to illustrate the problems and not to condemn, necessarily, those individuals and organizations which follow these practices. Our

opinions, whether pro or con, should be tempered by the realization that anyone who has spent a great deal of time and money developing a new plant ought to be able to reap the benefits of his or her work. The major point of contention is how long someone should have exclusive rights to an introduction.

Davis and Luby (3) give several reasons why trademarks are being used by some commercial firms as a way to protect a brand or generic name under which cultivars will be sold. The most important is that nurserymen may protect the fancy name applied to a plant by trademarking it and patenting the cultivar name. Since trademarks are good for 20 years and can be renewed indefinitely, this results in a perpetual lock on the name that most consumers recognize, even after the patent for the cultivar has expired. In many cases this gives the trademark owner exclusive perpetual control over a particular clone.

Some of the problems with cultivar names, code names, and trademarked names lie within the International Code of Nomenclature for Cultivated Plants-1980 (2) itself. Adherence to the Code (I.C.N.C.P.) is a strictly voluntary "gentlemen's agreement" and has no force of law behind it. Consequently there is a great deal of non-adherence to the rules of the Code. The Code addresses not only the correct or incorrect form of cultivar names but also the official registration of cultivar names. Unfortunately the I.C.N.C.P. is somewhat ambiguous about the subject of trademarked cultivar names. Articles 3, 4, 53, and 56 refer to trademarks but do not expressly prohibit the practice of trademarking cultivar names.

The Code does, nevertheless, recommend (Recommendation 31 Aa) avoiding names composed of an arbitrary sequence of letters. This presumably means the use of code names. However, the use of code names, a practice becoming widespread, is not expressly forbidden. When a code name, used as a cultivar name, is coupled with a "fancy" trademarked name, a grower other than the trademark owner may have a great deal of difficulty selling the plant under the cultivar name. Article 27 states, in essence, that a cultivar name published after 1 January 1959 must be a fancy name not in Latin form. To many this implies a real word in common usage, not a code name. The pamphlet published by the American Association of Nurserymen entitled "Naming and Registering New Cultivars" (1) also states in Rule #5 "The name [cv] must be in common language." This also implies the prohibition of code names as cultivar names. However, the use of code names as cultivar names was invented and put into practice by an organization of plant breeders for the purpose of protecting their introductions. C.I.O.P.O.R.A. (Communauté Internationale des Obtenteurs de Plantes Ornamentales et Fruitières Réproduction Asexuée, or The International Community of Breeders of Asexually Reproduced Fruit Tree and

Ornamental Varieties) introduced this practice which has been followed by some American nurserymen. The code names originally had the first letter (designating the breeder) in upper case letters followed by several more in lower case. For example, introductions by the fictitious Wombat Nursery would look like this: WOMgen, WOMetl, and WOMzeg. Because code names are now being used and advertised as actual cultivar names, albeit unregistered cultivar names, along with a fancy sounding trademarked name it is unlikely that a non-trademark holder will be able to sell many plants with the rather unattractive cultivar name of 'Womzeg', for example. Since this code name could not have been officially registered as a legitimate cultivar name (a registrar would reject it as a code name), another nurseryman could register the clone with an acceptable cultivar name and sell it with greater ease. Now there are at least three names under which one clone is sold, two of which have attractive sounding names: the trademark name and the legitimate cultivar name.

Another very serious problem is the blanket trademarking of a name which applies to cultivars of several genera and species. For example, an American nursery has trademarked the name, MAJESTIC BEAUTY™. This name is applied to cultivars in the genera: Araucaria, Chorisia, Cinnamomum, following Cupaniopsis, Fraxinus, Liriodendron, Magnolia, Olea, Pinus, and Raphiolepis. Each of these clones has either a "code name", cultivar name, or a cultivar name in long-standing use in the trade. If the cultivar name is not patented or the patent has expired, a grower other than the trademark owner must sell the plant under the cultivar name and not the trademarked name. In a few cases this does not affect sales negatively but in most other cases sales would be difficult. Again, if the cultivar name is not registered, a grower could select another name, register it, and sell his plants under the third name. This results in the use of many different names for the same clone. Also in contention here is whether or not code names can be used as legitimate cultivar names. If viewed as legitimate by some registration authorities then a second grower has no other ethical choice than to use the code name cultivar name if he wants to sell the plant.

To further illustrate this problem the following real example should suffice. The University of British Columbia Botanic Garden selected and registered with the Canadian Ornamental Plant Foundation the cultivar of Rubus calycinoides named 'Emerald Carpet'. Since Monrovia Nursery in California owns the trademarked name EMERALD CARPET™ for all plants by that name, the U.B.C. Botanic Garden, or its cooperators, cannot sell the plant in the United States by its legitimate cultivar name. Although the trademark is not valid in Canada, most of its potential market is effectively shut out by the trademarked name. This case points out

the futility of following proper cultivar registration procedures only to be beaten by a previously unknown or subsequent trademark.

Another problem that has surfaced recently is the real fact that many nurseries have used several names over time for the same clone. Eventually, one of the names gained widespread use and popularity. A nursery decides to trademark this successful name and reverts to a former, less desirable, name for its official cultivar name. Although cultivar names are governed by rules of priority of publication most names are never officially registered so there is little or no barrier to this practice. Again, the result is having several names for the same clone with the most desirable name now the property of a single nurseryman.

A similar example is the practice of giving a new trademarked name to a clone for which another valid cultivar name already exists, resulting in two names for the same clone. For example, Liriodendron tulipifera 'Aureo-marginatum' has been a correct cultivar name since 1903. It now has the trademark name MAJESTIC BEAUTY attached to it, giving two names for the same clone (4). Although most nursery professionals would recognize that the two names identify the same clone, consumers would most likely be drawn to the more attractive trademarked name giving the trademark owner an unfair advantage.

An equally serious problem is the trademarking of legitimate cultivar names. Although it is reportedly not possible to trademark cultivar names legally it seems to be happening with alarming frequency. Many patented cultivars have had their cultivar names trademarked as the patents neared expiration. The problem exists because most trademark commissioners do not understand plant nomenclature and registration and because there is a dual trademarking system in the United States. There are federal trademarks which apply to all states and there are trademarks issued by states and are valid only in that state. There seems to be no system for coordination of the granting of federal and state trademarks although the states are supposed to follow federal laws. Thus, a trademark can be obtained for a plant name in one or several states without the federal trademarking authority knowing about it. It is also possible for the same clone to have received several different trademarks in several different states. The ramifications of this possibility are truly frightening.

In summary, the crisis facing cultivar nomenclature is multi-faceted. There is no legal weight forcing adherence to the I.C.N.C.P. Names of patented cultivars are being trademarked as they near the patent expiration. Non-patented cultivar names are being trademarked as well as cultivar names that have been long present in the public domain. Some cultivar names are being changed and trademarked retroactively. There are both state and federal trademarks but there seems to be no communication

between authorities. At least one court has ruled that cultivar names cannot be trademarked but the practice seems to be continuing. It appears that aside from voluntary restraint, there is little that can be done to stop the trademarking of cultivars and/or the assignment of nonsensical code names to cultivars. Real hope for a solution that will restore order to our system of cultivar nomenclature can only come from a compromise worked out by a joint conference of international registration authorities (I.R.A.s), American and Canadian nursery organizations, the commissioners for patents and trademarks for both countries, plant patent owners, and representatives of the International Commission for the Nomenclature of Cultivated Plants, to name a few. Members of the legal profession must also be present since our nomenclatural problems extend into the legal realm as well. Whatever can be done to solve these problems needs to be done soon.

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BRUCE BRIGGS: Plants brought into this country from many foreign countries, such as Japan and Germany, have names that are difficult to pronounce. Is it permissible to translate the foreign name into what it means in English?

RICHARD MUNSON: The names should stay in the foreign language. However, there is nothing stopping you from giving it a common name that would make it easier to sell.

PETER DEL TREDICI: How widespread is the giving of another cultivar name to a plant that already has a legitimate cultivar name? One that comes to mind is Liriodendron tulipifera 'Aureo-marginatum' and 'Majestic Beauty'.

RICHARD MUNSON: Not very widespread.

DICK LIGHTY: I have a comment on trademarking a plant name. You could take a plant with a trademarked name and give it another trademarked name after the patent expires. This could be done by many different individuals. You would then have a number of different named plants all the same plant with different trademarked names.

PETER ORUM: I would like to make a comment. We commercial people have to sell the product and make some money.

Strange names make selling a plant difficult and I have a story to tell you that points that out. Some time back we obtained one plant of a small sedum from Bailey's Nursery. We did not and they did not know the name of the plant. We propagated it, sold it as 'Bailey's, and sold 20,000 to 30,000 per year. Someone came along and told us what it was. It came from Germany and had a name nobody knew and no one could pronounce in our catalogue. For the next few years we sold only a few thousand plants with the new name. We then changed it back to the original name and again sold 20,000 to 30,000 plants.

ACER × FREEMANII—A SOURCE FOR NEW SHADE TREE SELECTIONS

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Two commonly planted maples in the U.S. Midwestern landscape are the red maple, Acer rubrum, and the silver maple, A. saccharinum. Many selections have been made from each species (1). A large number of red maple selections exhibit consistent, attractive fall coloration and predictable growth form. Most silver maple selections feature a narrow growth form and deeply dissected leaves. Despite selection efforts, both maples encounter problems in certain Chicago landscape situations.

Red maple grows best in locations with good quality soil and adequate moisture. When transplanted into highly disturbed soils typical of new construction sites in the Chicago area, red maple usually performs poorly. These soils are alkaline, with pH levels often above 7.4, and they also possess a high bulk density because of their clay content. Planted in these conditions, red maple is slow to establish and often succumbs to stress-related problems. Plants which survive long enough to become established often exhibit alkaline soil-induced chlorosis.

Silver maple is more tolerant of adverse soil conditions associated with recent construction. Unfortunately, it can be an unkempt and weedy tree, with weak branches prone to ice-breakage. Large numbers of seeds and seedlings are often produced, requiring additional maintenance. Aesthetically it lacks the colorful flowers, fruits, autumn foliage, and bark of the red maple.

The attributes and problems characteristic of each of these species should be a guide for future plant selection. Hybrids of the red and silver maple could combine the desirable aesthetic features