How Horticultural Plants Are Named*

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The naming of horticultural plants has been a problem for many years for those who sell, buy, and use them. Since their naming is so much a part of plant nomenclature generally (that is, the system of names which is based on the classification of plants), we shall consider here how some of these problems are being solved by the application of two codes of nomenclature: the International Code of Botanical Nomenclature (1962) and the International Code of Nomenclature for Cultivated Plants (1961).

In 1867 the First International Botanical Congress was held in Paris. At this meeting there was presented for discussion a set of rules for botanical nomenclature written by the Swiss botanist, Alphonse de Candolle. Between the first and the fifth International Botanical Congress in 1930 at Cambridge, England, there were certain disagreements regarding the rules presented. However, at the Congress in 1930, many of these differences became reconciled, and for the first time the rules of botanical nomenclature became truly international.

This Code states the principles for naming plants and the specific rules for carrying them out. It deals with the categories of plant classification and the names assigned to these categories.

There has been worked out a system of classification by which those plants whose similarities are greater than their differences are brought together into taxonomic groups. These similarities include some of the characters of the flower and its various parts, the fruit and its seeds, leaf structures, the arrangement of the leaves, and the habit of the plant. Every plant belongs to several taxonomic groups which form a series with a fixed, hierarchical sequence. These are family, genus, species, and botanical variety.

FAMILY. This is an assemblage of smaller groups called genera, which resemble each other in general appearance and technical characters. Some well known families are the *Rosaceae,* the Rose Family; the *Rutaceae,* the Orange Family; the *Palmae,* the Palm Family; and the *Juglandaceae,* the Walnut Family. Most names of families end in *aceae,* with a few exceptions, of which *Palmae* is one.

GENUS. This is a group subordinate to the family and recognized from other genera in the same family by one or more characters. *Malus* (apple), *Pyrus* (pear), and *Prunus* (peach, plum, almond, and others) are genera of the *Rosaceae.* Each genus includes one or more species.

SPECIES. This is a kind of plant distinct from other kinds in marked or essential features which provide characters for its identification. It may be assumed to represent in nature a continuing succession of individuals from generation to generation, which ranges over a certain geographical area. The name of a species is a com-

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bination of two words, called a binomial, consisting of the generic name, the specific epithet, as *Prunus persica* for the peach. It is important to realize that species are variable and that a species may be composed of subordinate groups, one of which is the following.

VARIETAS (botanical variety). A species may consist of two or more variants which have originated and then maintain themselves as natural populations in the wild, and which often have their own geographical distribution. For instance, *Malus ioensis,* the ornamental prairie crabapple which occurs in nature in the Midwest, has several botanical varieties. One is var. *plena,* with double flowers and very ornamental, while the others are var. *palmeri* and var. *texana* which have single flowers and hence are not as ornamental but are distinguished from other botanical varieties in this species by certain leaf characters. When brought into cultivation a botanical variety is known by the same name given to it as a plant growing in the wild.

Thus, the Botanical Code deals with the categories just mentioned. Without going into the details of the Code, the following points of importance may be mentioned:

The principle of priority is the cornerstone of the Code. It provides that each of the categories mentioned has only one correct name, the earliest one validly published within the same rank. Publication of names is governed by the Code; and the place and scope of publication is covered in some detail. One condition of publication, observed since 1935, is a Latin diagnosis for each new species. Another very important rule is the homonym rule: a name cannot be used if it is a later homonym, that is, if it duplicates a name previously and validly published for another and different plant. These attributes make for stability in names.

Cultivated plants fall into two categories. First there are those introduced directly from the wild, without any noticeable change in appearance or characters from those growing in their native habitat. Few, if any, pomological plants fall into this category.

Second, are those plants which are of horticultural origin. These have originated in cultivation from what had originally been wild plants, but which now differ in various ways from their wild prototypes. Horticulturists are always trying to find plants which are more suited to their needs, and so, through selections and hybridization, many new plants with qualities and uses superior to those of their wild progenitors have been developed by man. These horticultural plants are named at three main levels: genus, species, and cultivar. We shall now answer the question of what a cultivar is, and at the same time consider the use of the second code of nomenclature mentioned above, the International Code of Nomenclature for Cultivated Plants.

Species, mentioned previously, as often being variable when brought into cultivation, may produce seedling plants which differ among themselves. For instance, pomological plants (fruits) may be produced which vary in characters such as flesh texture, size, color of skin and flesh, time of producing flowers, or season of fruit ripening, one or more of which may be desirable for a particular purpose. Such horticultural variants, which have arisen, and of necessity must be maintained in cultivation, have been called "varieties". These variants differ from botanical varieties by reason of their origin, main-

tenance in cultivation, and type of characteristics, and should not be confused with them. The term 'cultivar' has been proposed as an international term for such variants and replaces the English language term 'variety' and also such terms as the Italian 'razza', Dutch 'ras', German 'sorte', and Scandanavian 'sort'. A cultivar may have originated as a selection from a single species, or from a group of hybrids between two species. It may be a single plant or several plants recognized by horticulturists, agriculturists, or foresters, and distinguished by characters (morphological, physiological, genetic, or chemical) that are different for the purposes of horticulture, agriculture, or forestry. It is a unit which is intentionally maintained as uniform as possible.

Because of the desirability of uniformity in horticultural material certain uniform groups of cultivars have been developed and are maintained by the particular mode of reproduction and propagation best suited to them. Two such groups are clones and lines. These two differ in their mode of reproduction and propagation.

CLONE. A clone is a kind of cultivar. It is a collective name for all plants asexually reproduced, that is, by vegetative means such as cuttings, divisions, grafts, or others, from a common ancestor. Plants which are members of a clone are all alike and identical to their common ancestor. Examples are 'Elberta' peach, 'Nubiana' plum, 'Buttercup' lily. (The use of the single quotation marks is discussed below.)

LINE. A line is a kind of cultivar. It is a group of individuals of uniform appearance reproducing sexually, propagated by seeds; and its stability is maintained by selection to a standard. An example is 'Atlas' wheat.

The naming of cultivars is governed by the International Code of Nomenclature for Cultivated Plants. Let us now consider the relationship of this Code to the International Code of Botanical Nomenclature and the difference in purpose of the two codes. The latter Code governs the use of botanical names in Latin form for both cultivated and wild plants (e.g. *Prunus salicina,* Japanese plum). The International Code of Nomenclature for Cultivated Plants, on the other hand, aims to promote uniformity, accuracy, and fixity in the naming of cultivars, that is, for cultivated plants below the rank of species, and which are normally given fancy names. The two codes supplement each other. The International Code of Nomenclature for Cultivated Plants carries on for horticultural, agricultural, and sylvicultural plants, where the International Code of Botanical Nomenclature stops.

The code for cultivated plants after defining the term cultivar and naming kinds of units which the inclusive term cultivar may embrace, provides for the formation, use, publication, priority, and rejection of cultivar names. Some of the most important rules may be summarized as follows:

1. New cultivar names published on or after January 1, 1959, are to be fancy names, that is, different from Latin botanical names. This does not include botanical names being used as cultivar names, published before this date.

2. New cultivar names may be written in any language. The Code provides for their translation and transliteration. However, it is certainly desirable to use English, Spanish, French, German, or Russian, as recommended by the Code.

3. Cultivar (cv.) names may follow either the botanical name or the common name of a plant. Examples are *Prunus salicina* cv. Laroda; or Japanese plum cv. Laroda.

4. Cultivar names should be written in such a way as to distinguish them from the plant names which they accompany, either by preceding the cultivar name by the abbreviation cv. or by enclosing the cultivar name in single quotation marks. Double quotation marks must not be used to distinguish cultivar names. Examples of different ways of writing the same cultivar are: *Prunus salicina* cv. Laroda; plum 'Laroda'; Japanese plum 'Laroda'; *Prunus salicina* 'Laroda'; *Prunus salicina* cl. 'Laroda'; or *Prunus* 'Laroda'. All are equivalent methods and no confusion should result, yet if one does not know that 'Laroda' is a plum, then one must use either the botanical binomial (*P. salicina*) or the common name (plum, or still better, Japanese plum).

5. Cultivar names should not be repeated within a genus, except where the name would not be attached directly to the name of the genus. *Prunus* 'Laroda' is satisfactory because 'Laroda' is the only cultivar name in *P. salicina, P. domestica, P. avium, P. cerasus, P. persica,* etc. However, *Prunus* 'Early' cannot be used, because the cultivar name 'Early' is found both in *P. persica* and *P. domestica;* these should be written *Prunus persica* 'Early' and *P. domestica* 'Early', in order to avoid confusion; or if you wish, peach 'Early' and garden plum 'Early'.

Because of the continual flow of new cultivars in horticulture, it behooves all of us to follow certain rules so that chaos and confusion may not be compounded. We must strive to have each cultivar bear its **own correct** name.

Vinifera-type Grapes for the East

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Since colonial times many attempts to grow *V. vinifera* east of the Mississippi have been made, only to end in failure for the reason that the species is ill adapted to our climate. Thriving where the winters are relatively moist and mild and the summers hot and dry, it does not tolerate severe cold, succumbs to damage by phylloxera, and is soon destroyed by disease in the high humidity of our summers. Not that the *vinifera* cannot be fruited in the east; it can, indeed, under optimum conditions; but the cost in effort is prohibitive except for the amateur and the breeder.

Because this magnificient species could not be readily grown here, and because there were no true "table"-types among the native species, the grape was among the first of our fruits to receive the serious scientific attention of the eastern breeder.

From the early nineteenth century, wide-spread efforts were made to improve the native American grapes by hybridization with *V. vinifera.* The ground work laid by Rogers in the north, by the splendid achievements of Dr. T. V. Munson, genius and lover of the vine, towering above all others before or since his time. Taking up the task of breeding where these men laid it down, our state and Federal stations have brought it forward to the present.

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