

HARDY COTONEASTERS

for North Dakota

By Donald G. Hoag

THE hardy cotoneasters (ko-TONE-ee-as-ters) include a number of shrubs valued chiefly for their attractive foliage and reasonably neat habit of growth. As a group these shrubs produce very small pinkish-green blossoms, seldom noticed by the casual observer.

Lacking showy blossoms, the cotoneasters should be selected for their vegetative habits and occasionally for their attractive fruits. These characteristics place most of the hardy cotoneasters in the category of hedge and "filler" shrubs—shrubs that present an all-around neat and attractive appearance without any one outstanding feature.

Most of the cotoneasters are natives of central Asia, although a few extend from eastern Europe to northeastern Asia. Their native range makes some species fully hardy for North Dakota conditions while others are of borderline hardiness—capable of surviving average winter conditions but with frequent damage.

Many of the cotoneasters (and possibly all) that can be grown under North Dakota conditions are susceptible to fire blight, a bacterial disease which is not of common occurrence on cotoneasters in this area but in some few years may cause damage. Most or all cotoneasters are also subject to infestation by scale insects. However, severe pruning in the spring, followed by malathion sprays applied twice during mid to late June, can easily control scale in the home planting. Neither pest is of sufficiently frequent or widespread occurrence in the area to warrant reduction of cotoneaster plantings.

Most common of the species is the Peking cotoneaster (*Cotoneaster acutifolia*), a widely used hedge and filler shrub. Its 6 to 8 foot height, rounded, branchy habit of growth, and dark green, glossy foliage, are characteristics that make it exceptionally valuable

DONALD G. HOAG is assistant horticulturist.

for hedging use, as well as for use in informal border and foundation plantings. Although its flowers are small and inconspicuous, and its fruits nearly black, the species is deservedly appreciated for its general attractiveness. Although this species (as well as others) is subject to chlorosis under extremely high lime conditions, typical soils in all quarters of the state support normal growth of cotoneasters.

The striking dark green leaves of Peking cotoneaster turn to an attractive blend of dark reds and orange in the autumn. Few shrubs in the upper midwest are more attractive in autumn coloration, even though the colored foliage drops in a short time.

The Hedge cotoneaster (*C. lucida*) is only infrequently listed by nurseries, even though the species has been listed as preferable to Peking cotoneaster by such authorities as Donald Wyman of the Arnold Arboretum. Plantings of both species at the North Dakota Agricultural Experiment Station fail to display distinguishing differences and taxonomic references indicate the close relationship of the two species. A distinct possibility exists that one species is a geographical variety of the other. An even stronger possibility exists that the type commonly found in commerce is actually *C. lucida* as characterized by more lustrous leaves when young.

Regardless of classification, Hedge cotoneaster and Peking cotoneaster may be considered as equivalent in landscape value. If differences exist, they can only be ascertained by a specialist and the two species, as they are available in the Upper Midwest, may be considered as a horticultural entity. The complex of the two species, henceforth referred to as Peking cotoneaster, may well be set forth as the standard against which other species or varieties are measured for their value in North Dakota.

The European cotoneaster (*C. integerrima*) is a species that deserves to be better known. The dark blue-green leaves are whitish or light gray beneath and though not as glossy as those of Peking cotoneaster are of a color that is lustrous in itself. The bright red berries which mature by early August present a striking contrast with the deep colored foliage. A plant in full fruit can be a valuable addition to any ornamental planting.

Although the habit of European cotoneaster is somewhat more loose than that of Peking cotoneaster, the somewhat heavy foliage keeps it from being sparse. Less suited to hedge uses, this 5 to 6-foot species is at its best in the informal border or large foundation plantings. Among the hardy cotoneasters it is doubtless second in value only to the Peking cotoneaster for North Dakota conditions.

E. H. Wilson, famed plant explorer, introduced the Sungari Rockspray (*C. racemiflora soongorica*) and he is said to have considered it one of the best cotoneasters. Its habit is exceptionally loose with long, arching branches carrying a sparse foliage cover. Although its berries are light red, the gray-green color of the leaves lacks sufficient life to provide a clean contrast. The sparse habit and dull foliage color add up to a second rate species that should be retained on the recommended list mostly because of its apparent complete hardiness.

Cotoneaster multiflora, a species never honored with a common name, is in many ways similar to, but more attractive, than Sungari Rockspray. The height of both species (6 to 8 feet) places them within the same range, although the breadth of *C. multiflora* (10 feet) may be the greater. Of the two, *Cotoneaster multiflora* has brighter green leaves and a slightly better habit of growth. It is the only species of cotoneaster with showy blooms, having clusters of white flowers somewhat like small plum blossoms. These advantages are offset by the fact that it is of borderline hardiness and may be damaged severely some winters. Either species might be used with restraint and the latter only in favored sites.

A number of species hardy in North Dakota are similar but

often inferior to the European cotoneaster. *C. frigida* has attractive deep green foliage early in the season but becomes dull in midsummer. Its great height (15 to 18 feet) restricts its use but might make it effective in the large screen planting. Its berries are bright red. *C. rosea*, also with red fruit, is similar to both the European cotoneaster and Sungari Rockspray but not distinctive enough to warrant planting on the home grounds. *C. tomentosa* (8 to 9 feet) has dull red berries and leaves that are whitish beneath. *C. melanocarpa* and *C. ignava* are similar but with purplish or black fruits. It is doubtful that any of the last named species are of sufficient merit to consider with European or Peking cotoneaster.

Cotoneaster adpressa, a prostrate shrub with small ($\frac{1}{2}$ inch), dark green leaves on creeping stems could be a worthwhile addition to the dwarf shrub list for North Dakota. Unfortunately it is of borderline hardiness and, although capable of surviving, when established, its growth is slight and winter damage is extensive when not covered by snow during the cold months. This species should be grown by the collector only and not recommended for general use.

Cotoneaster divaricata, an upright shrub capable of growing 6 feet in height, has slightly larger leaves that are only slightly duller than those of *C. adpressa*.

Under North Dakota conditions this species has suffered severe freeze-back in average winters, restricting its height to 3 feet. Under better than average growing conditions this species might be used by the grower who has no objections to pruning back dead tips in the spring, thereby restricting its size to that of a medium small shrub. The leathery foliage is attractive and distinct from that of the hardy cotoneasters.

For general use, home plantings will probably be restricted to the commonly available Peking cotoneaster and the red-berried European cotoneaster, both of which are highly acceptable shrubs whether used in informal borders, foundation plantings or as hedges. The general difficulties in propagating cotoneasters make it undesirable that other hardy but little used species should be added to the list of available types.

