

The various commercial preparations available to the dairy farmer should be used only on the advice of a veterinarian. Mastitis can be prevented (See NDAC Extension Circular A-219—Prevent Mastitis).

The main factors in mastitis control are: (1) Use good milking practices. (2) Make routine use of the strip cup, as a means of early detection of mastitis. (3) Milk out infected quarters at half hour intervals. (4) Avoid highly advertised remedies. (5) Call your veterinarian early—don't try advertised remedies first.

Good management and competent veterinary service are the answers to successful mastitis prevention.

Mastitis prevention is the best solution to the existing problem of antibiotic-adulterated milk for human consumption.

Bibliography

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CARAGANA

VARIETIES FOR *North Dakota*

By Donald G. Hoag¹

THE genus *Caragana* has been variously referred to as Pea-tree or Peashrub. The latter name seems more appropriate since, without exception, the introduced species are shrubby in habit.

This hardy and relatively drought resistant group of shrubs is native from Russia through Turkestan and Siberia to Manchuria and north China. All species tested appear resistant to lime induced chlorosis and are, therefore, well adapted to

the soils of the northern Great Plains.

Although very limited numbers of *Caragana* species or varieties are usually found in local commercial listings, there are others of horticultural interest. At least one little known variety has greater ornamental value than the two or three species commonly found in commerce.

In the minds of many, the Siberian Peashrub (*Caragana arbor-*

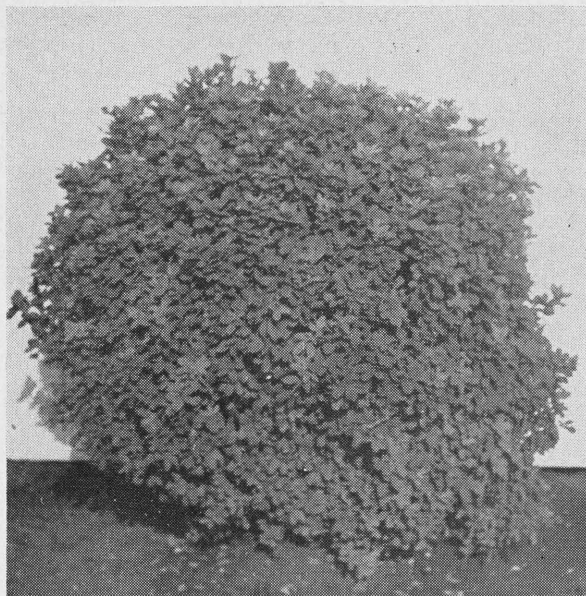


Figure 1.—Globe Caragana (*C. frutex globosa*). A promising new variety for landscape plantings.

escens) is probably the classic type of the genus Caragana. Widespread usage throughout the upper mid-west and prairie provinces of Canada of this species in windbreaks and shelterbelts has made its name synonymous with Caragana.

Although valuable because of its size, vigor and hardiness in the windbreak planting, the Siberian Peashrub seldom should be considered as truly ornamental. Early in the season this large shrub (probably averaging 12 feet under varying conditions) may be attractive in new leaf with yellow flowers resembling small pea blooms. However, its stature and coarse habit make it of doubtful value in the landscape picture. Add to this the fact that the plant is subject to frequent attack by mites and blister beetles, with resultant partial or near complete defoliation in the latter part of many summers, its ornamental value is seriously impaired. The home owner would do

well to restrict its use to shelter plantings.

A variety of the Siberian Peashrub with narrower foliage and, therefore, a finer texture, is *C. arborescens Lorbergii*. The very fine texture is somewhat out of proportion with the stature of the shrub and, consequently, there is little to recommend the use of this variety.

A more recent introduction is a clone of *C. arborescens* from the Forest Nursery Station, Sutherland, Saskatchewan, known as the Sutherland Caragana. This little known variety appears to be capable of growth in height comparable with the species but with a narrow, upright habit. A mature shrub forms a slender, fairly compact column and because of its distinct habit of growth may have value in the landscape picture where a slender accent is needed.

The Russian Peashrub (*C. frutex*) with its shorter stature (6 to 8 feet) and darker green foliage

might have greater ornamental value than the Siberian species except that its suckering habit makes it a nuisance in the home planting. However, in recent years, a more dwarf, non-suckering variety known as Globe Caragana (*C. frutex globosa*) has been introduced from Manitoba. This variety, introduced by Dr. F. L. Skinner of Dropmore, Manitoba may well be the most valuable shrub introduction of this generation for the upper midwest.

Globe Caragana is slow growing, rounded when young, and so compact that most immature specimens create the effect of having been carefully trimmed. Mature specimens, 3 to 4 feet in height, are more elliptical in shape and have a spread of 2 to 2 and one-half feet. The slow growth and very compact habit should make this shrub nearly ideal for the low hedge, while its somewhat formal appearance recommends its use for the entrance foundation planting. General avail-

ability of Globe Caragana in commerce is eagerly awaited by many.

The Littleleaf Caragana (*C. microphylla*) is sprawling in habit, coarse in growth and has nothing to recommend its use. An upright selection of this species from the Morden Experiment station, Morden, Manitoba, grows 6 to 7 feet tall but its very fine texture and light green color contribute little or no ornamental value. Although this selection, named "Tidy" Caragana, is neater in habit than the parent species, the name appears overly complimentary.

The Pygmy Caragana (*C. pygmaea*) has long been a popular ornamental in the northern Great Plains. Although the texture is very fine, its 3 to 4 foot height and rounded form when mature make it a worth while addition to the landscape picture. The gray-green foliage color is not ideal, but its bright yellow blossoms in the spring add to its ornamental value in the bor-

Figure 2.—Pygmy Caragana (*C. pygmaea*). A hardy favorite for hedge and foundation planting.



der. Pygmy Caragana may also be recommended for use as a low trimmed or untrimmed hedge. A closely related species, *C. aurantica* is characterized by orange-yellow blooms but is otherwise so similar to *C. pygmaea* as to be easily confused in the vegetative stages. There is a distinct possibility that some of the material in commerce is mixed, as evidenced by specimens with orange stained blooms.

The Shortleaf Caragana (*C. brevifolia*), closely related to Pygmy Caragana, is somewhat finer in texture, has a slightly deeper green color but may grow 4 to 5 feet in height. To some the Shortleaf Caragana may be more valuable than Pygmy Caragana, while to others its greater height will be a detriment. Further testing and trial are probably indicated.

A novelty in the Caragana genus is the Shagspine Peashrub (*C. jubata*). Generally growing 5 to 8 feet tall, *C. jubata* is characterized by long, sparingly branched canes which are densely clothed in stiff spines and long, shaggy hairs. The shrub without leaves is quite as striking as when in leaf. Its distinc-

tive habit of growth might make Shagspine Peashrub of interest to a few who are interested in a bizarre landscaping effect, but its use should be distinctly limited.

Closely related to the Peashrubs but actually not a member of the genus Caragana is the Siberian Salt-tree (*Halimodendron halodendron*). This large shrub (to 8 feet) closely resembles the Siberian Peashrub until midsummer when its rosy-lavender flowers contribute considerable ornamental value. Unfortunately, the species is inclined to sucker, a characteristic which limits its value. Since the species is tolerant of saline soils, it is perhaps best used for shelter plantings under conditions of salinity exceeding the tolerance of other woody plants.

Outstanding among the Caraganas for ornamental value are the Globe Caragana and the Pygmy Caragana and its close relatives. The former, in particular, should be destined for wide usage when generally available. The Siberian Peashrub will doubtless continue to be of value in shelter plantings because of its vigor and hardiness.

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**USE GLOBE AND
PYGMY CARAGANA
IN YOUR HOME PLANTING.**

