

Cultivar Introductions of *Ilex*, *Pyracantha*, and *Rhus* from Rutgers University

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ILEX OPACA

Initial work in the woody ornamentals breeding program at Rutgers University was with plants of *Ilex opaca*. The first introduction was 'Jersey Knight', originally selected from the wild at Locust, New Jersey, by the late Dr. Charles Connors and tested as Brown No. 9. Plants of 'Jersey Knight' are vigorous and exhibit a dense habit of growth with large, semi-glossy, green leaves. More than just a good pollen producer, progeny tests of seedlings from hundreds of controlled crosses showed that 'Jersey Knight' was the best of the male parents utilized. 'Jersey Knight' is fully winter hardy at -15F, and is widely regarded as the best staminate cultivar of *I. opaca* in the trade today.

'Jersey Princess' is a seedling selection from a controlled cross of an unnamed pistillate plant × 'Jersey Knight'. Plants of 'Jersey Princess' develop a narrow to medium conical habit, are winter hardy at -15F, exhibit high vigor and the darkest glossy, green foliage of any plant of *I. opaca* that this holly hybridizer has ever seen. The red fruit of this pistillate cultivar are not particularly showy, but the superior foliage characteristics fully compensate for any deficiency in this regard.

'Dan Fenton' originated as a seedling selection from a controlled cross of 'Maurice River' × an unnamed male, two clones grown by the late Daniel G. Fenton, a vigorous promoter of plants of *I. opaca* and a co-founder of The Holly Society of America. Plants of 'Dan Fenton' develop a broadly conical form and exhibit dark green, semi-glossy leaves of a rather distinctive shape (square). This pistillate cultivar produces good crops of attractive red fruit and is fully winter hardy in U.S.D.A. Plant Hardiness Zone 6a (-5 to -10F). This cultivar is exceptional for the quality of the foliage and the characteristic that rooted cuttings develop readily in containers to yield upright, well developed plants with minimal pruning or staking.

The cultivar 'Jersey Delight' originated as a seedling selection from a controlled cross of 'Old Heavyberry' × 'Isaiah' (a glossy-leaved staminate cultivar). The hybrid exhibits the heavy leaf texture of 'Old Heavyberry' and the "shine" of 'Isaiah'. Plants of 'Jersey Delight' develop a narrow conical form, produce heavy crops of showy, red fruit, and are fully winter-hardy in Zone 6a.

DECIDUOUS HOLLIES

After initiating crosses within *I. opaca*, hybridization efforts were extended to crosses between our native winterberry holly, *I. verticillata*, and its Asiatic counterpart, *I. serrata*. This work led to the introduction of the first known interspecific hybrids of these two species: namely, *I.* 'Harvest Red' and 'Autumn Glow'. These cultivars combine the vigor of *I. verticillata* and the diminutive form of *I. serrata*, and provide pleasingly low and compact plants with excellent,

dark green foliage, and heavy crops of showy fruit that usually persist about five months. The hybrids are fully vigorous but do not develop the tall, open habit so typical of many plants of *I. verticillata*. Plants of 'Harvest Red' grow to 7 ft tall × 12 ft wide in 12 years with horizontal to slightly pendulous branches and dark green leaves that completely mask the multi-stemmed nature of the plants. Plants of 'Autumn Glow' are slightly taller but less spreading than those of 'Harvest Red' and the fruit are orange-red rather than dark red as with 'Harvest Red'. The fruit become fully pigmented about September 1st in central New Jersey and provide an attractive display of foliage and fruit until the first hard freeze of autumn "knocks" the leaves from the plants. The spectacular display of the leafless fruited branches typically persists into January or February. When these hollies were introduced in 1972, there was very little interest in deciduous hollies. However, with virtually no promotion, 'Harvest Red' and 'Autumn Glow' have become very popular in the commercial trade.

A staminate hybrid [*I. verticillata* × (*I. serrata* × *I. verticillata*)] named 'Raritan Chief' was introduced as a pollinator for 'Harvest Red', 'Autumn Glow', and other deciduous hollies. The original seedling was selected for its low, compact habit and excellent summer foliage characteristics which make it easy to incorporate into most any landscape. 'Raritan Chief' is particularly useful as a pollinator as the period of flowering extends over a period of two weeks. A major factor in the failure of deciduous hollies to be of ornamental value in the landscape is the lack of available pollen at the time the pistillate plants are flowering

ILEX CRENATA

Ilex crenata is a popular bread-and-butter item in the nursery industry, plants of this species being used in nearly every type of landscape, be it residential, commercial, industrial, institutional, or municipal. 'Beehive' is a new cultivar that is receiving wide acceptance. Selected out of a population of 21,000 seedlings resulting from a cross of 'Convexa' × 'Stokes', the original plant of this cultivar was selected after 15 years testing in the field. Prior to the introduction of 'Beehive', plants of this clone were intensely evaluated in both container production and field production studies along with 5 plants each of 39 other seedling selections from the cross, and with 5 plants each of 10 prominent cultivars in commerce. Destined to become a standard in the trade, 'Beehive' is rated high for its attractive form and winter hardiness, being fully winter hardy in Zone 6a. The plants exhibit tiny leaves medium green in color, and develop a dense, symmetrical habit of growth. The plants are vigorous but require no pruning, a 12-year plant from a rooted cutting being approximately 3 ft tall × 3½ to 4 ft wide.

'Dwarf Pagoda' and 'Green Dragon' are siblings selected from a cross of *I. crenata* 'Mariesii' × *I. crenata* 'John Nosal'. Both parents are relatively dwarf, with short internodes and exhibit rather rounded, dark green leaves. The cross was made with the hope that the resultant progeny would include seedlings that were truly dwarf with more attractive, or artistic, habits of growth. This goal was achieved with both 'Dwarf Pagoda' (pistillate) and 'Green Dragon' (staminate). Plants of 'Dwarf Pagoda' grow approximately 1 to 2 in. per year, exhibit small, rounded, dark green leaves and a tiered habit of branching. They are hardy to 0F and are widely used as bonsai and in tray gardens, as well as in rock gardens. 'Green Dragon' is

slightly more vigorous in growth and the plants exhibit slightly larger, dark green leaves. Plants of 'Green Dragon' have been widely distributed, for use primarily as bonsai and in rock gardens.

No upright form of *I. crenata* has achieved the wide acceptance throughout the country that 'Helleri' receives as a low, spreading form. 'Jersey Pinnacle' is a new contender on the scene. A seedling selection from a cross of 'Green Lustre' × 'John Nosal', 'Jersey Pinnacle' is outstanding for its naturally upright habit of growth and attractive, dark green foliage which remains attractive in the spring of the year when the leaves of most other cultivars of *I. crenata* exhibit winter burn in Zone 6a and are not salable.

'Midas Touch' is an attractive, upright selection of *I. crenata* with yellow variegated leaves. This cultivar originated as a budsport (observed as a single lateral branch with yellow variegated foliage) on a 1-year seedling that resulted from a cross of a yellow-fruited clone (P.I. #231948) × *I. crenata* f. *microphylla*. The yellow sectors of the leaves are most brilliant on plants grown in full sun.

INTERSPECIFIC HYBRID

Ilex 'Rock Garden' originated as a seedling resulting from hybridization of a pistillate plant of *I. × aquipernyi* × *I. 'Accent'* (male *integra/pernyi* introduction by the late William F. Kosar).

It is a welcome addition to the listing of evergreen plants suitable for use in rock gardens or in other settings where diminutive plants are favored. It has a very dense, dwarf, low spreading habit and typical holly-type foliage. Seven years from a rooted cutting, the plants will average about 6 in. high and 12 to 15 in. wide. If appropriate pollinators (*I. × aquipernyi* or blue-holly males) are present, the plants will set nice crops of bright red fruit. 'Rock Garden' is fully winter-hardy in zone 6a.

PYRACANTHA

The cultivar 'Rutgers' originated as a seedling from a controlled cross within *P. coccinea* and was selected for its low habit of growth, excellent dark green foliage, heavy flowering and fruiting, and high resistance to the bacterial incitant of fire blight and to the fungal incitant of scab disease. 'Rutgers' has nearly replaced 'Lowboy' in the nursery trade. 'Lowboy' was popular for its low, spreading habit but plants of this cultivar are very susceptible to the fungal incitant of scab. Plants of 'Rutgers' are fully winter-hardy in Zone 6b (0 to -5F).

'Fiery Cascade', a seedling selection resulting from a controlled cross of *P. × 'Watereri'* × *P. crenulata* var. *kansuensis*, is exceptional for its dense, low habit with pendulous branches bearing heavy crops of brilliant red fruit that contrast markedly with the small, slender, dark green leaves. Plants of 'Fiery Cascade' are highly resistant to the incitants of fire blight and scab. The plants are exceptionally winter-hardy for a red-fruited selection of *Pyracantha* [Zone 7a (0 to 5F)].

RHUS CHINENSIS

The first and only cultivar of *R. chinensis* was introduced from the woody ornamentals breeding program of Rutgers University under the name 'September Beauty'. This clone was brought to my attention by the late Edgar G. Rex, who was serving as Executive Secretary of the New Jersey Federation of Shade Tree Commissions. Unusually strong limbed for a member of the genus *Rhus*,

plants of 'September Beauty' are extremely vigorous and typically develop a single trunk with three or four major branches originating 1 to 3 ft above ground. A 14-year plant at Rutgers University is 20 ft tall and 40 ft wide with a very symmetrical form. It is densely foliated with glossy, dark green leaves. The plants are exceptionally showy for two to three weeks in early September. Thousands of creamy white flowers are borne on the compound panicles that average 24 in. wide and 22 in. in length. Root suckers become a problem if the plants are included in mulched beds; however, when grown in sod, routine mowing eliminates the problem. This cultivar is a welcome addition to the short list of small trees that produce a dramatic floral display in September. The plants are fully winter hardy in Zone 6a.

An extensive program of intra-and inter-specific hybridization with many different species of *Ilex* is currently in progress at Rutgers University. We anticipate that new and superior cultivars will be introduced in the near future.