

sary that a man need to write to give out some information. He can make a demonstration. He can show something, and he can talk in his own way to give this information out to others. Why couldn't we have a whole day devoted to membership presentations, five or ten minutes for each?

I have attended every meeting of the Plant Propagators' Society since 1951 when we started, except when I was overseas, and my personal experience is that we have derived more information from the rather short speaker-exhibitor talks than from any other feature of the program. So let's try to encourage participation among the membership-at-large.

MODERATOR HILLENMEYER: Thank you very much, Professor O'Rourke.

Our next speaker is Roy Nordine, The Morton Arboretum, who will speak to us on the subject of Juniper Species. Mr. Nordine!

A FEW LOW JUNIPERUS SPECIES AND CULTIVARS

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Although the Juniper collection contains a great many species and clones, we will confine this discussion to a number of junipers that remain low in stature. We plan to quote the age and dimensions of these plants, information that should have some value whenever plants are considered for landscape use — especially when used in foundation plantings. All plants receive only a very small amount of trimming during their early years in the nursery rows; once they are placed in their permanent locations, the plants are allowed to grow and develop into their natural form and shape.

The late Prof. Maney raised a number of seedlings from *Juniperus chinensis* var *sargentii*. Four plants were selected and named; they are frequently called the Iowa Junipers, and they are the first four plants to be registered under the program instituted by the American Association of Nurserymen in 1947. *Juniperus chinensis* 'Ames' at 14 years old has a pyramid shape, being 4' wide at the base and tapering to a point about 9' tall. There are some sharp or juvenile needles among the dusty green foliage, and a few berries are present. 'Iowa' and 'Story' are much alike in general shape, 'Iowa' being 4' wide and 10' high; 'Story' is 3' wide and 12' high, and they both maintain a uniform width to a point past the middle before tapering off to the top. Both plants have only soft or adult foliage, of a gray-green color. 'Iowa' is a female. 'Story' is a male plant with less branches and foliage than either 'Ames' or 'Iowa.' 'Maney' is a wide-spreading, irregular shaped plant about 7' high and 12' wide; several large branches have broken from heavy snow loads. Both types of foliage are present, although the sharp foliage predominates; the color is a fine dark blue, and the plant is a female. All four plants are the same age; they were grafted in 1948.

Juniperus chinensis f. *globosa* was purchased as a plant in 1938 and has maintained without trimming a fine rounded shape, being now 6' wide and 7' high. There is a small amount of sharp needles among the short twig growth; the foliage is a fine clear green, and there are no berries present. A plant of *Juniperus chinensis* var. *sargentii* that was purchased in 1937 and was originally trained to a short stake, is now a graceful mound to 3' high and 6' wide. Branches are short and the predominant short sharp needles are crowded to make a dense plant of a dark green color.

There are now about a dozen different clones of *J. chinensis* f. *pfitzeriana*. Not all have grown to a size where they can be mentioned. Our largest and oldest Pfitzer was set into the Rose Garden as a 4' plant in the spring of 1936. It is now 5' high and 20' wide, and the sides have been controlled by public traffic for 5 years. A plant of Armstrong Pfitzer was brought in 1943 and is now 4' high and 6' wide. This plant branches from the ground and lost a third of the plant in one winter. All foliage is soft or adult; twig growth is slow and short, and foliage color is a fine clear green.

There are two plants of "Kallay's Pfitzer" that are 23 years old and have grown together. They are only 3' high and 9' wide; the plants are thick and dense with short twig growth and with sharp foliage predominating. The color is like that of the common Pfitzer. The plants of "Pfitzeriana nana" were acquired in 1950 and are now 4' x 4'. They resemble the common Pfitzer in color and foliage, the difference being in much shorter and slower twig growth. Pfitzer 'Old Gold' came recently from Holland. The young plants keep their good yellow color in the growing tips the year around. It is a better color than found in 'Pfitzeriana Aurea.'

The Hetz Juniper is very rapid growing, extending itself upward and outward at the same rate. No one knows its mature size or height. It is a female plant with a good blue color and only a small amount of sharp foliage. Pfitzer "Silver Blue" and 'Pfitzeriana Glauca' from all appearances are identical with 'Hetzii'; they may be Hetz Juniper under other names.

Pfitzer "Nick's Compact" are 2½' high by 6' wide from small plants in 1954. Height comes slowly to this plant, with predominantly sharp foliage that has a blue cast among the green foliage. This is a male plant. "Dwarf Pfitzer" is now 2½' high by 4' wide. This male plant has a light, almost yellowish green adult foliage; all new growth is short and points upward. Pfitzer "Nelson's Compact" is now 3' high and 5' wide from 1957 plants. It has the growth rate of the common Pfitzer growing in all directions, and promising more height than spread. It is a male plant with nearly all the dusty blue foliage with sharp needles. This plant is open and would require shearing. The "Moraine Pfitzer" is a slower growing, compact plant, from small plants purchased in 1954 and now 2½' high x 5-6' wide. The majority of foliage is green and sharp, but there is a blue cast; there are no berries. "Pfitzeriana plumosa" is a rapid growing pfitzer; our plant was purchased in '58 and is now 4' high and 8' wide. It is a male plant with nearly all foliage sharp and of a bluish color.

Juniperus davurica, started as a graft in 1951, is now two feet wide and 8-9' high. It is in all ways similar to Swedish Juniper except it is hardier and less subject to wind damage.

Juniperus horizontalis is native in all the northern states across the continent to the Rocky Mountains, and occurs in variations of color, height, foliage, and growth habits. The most popular in this group is "Andorra" with a green color in summer and a plum color in winter, a plant that matures at less than 2' high. The form *alpina* is the tallest with horizontal ground branches from which other branches grow vertically, becoming 3-4' high. It is not an attractive plant. 'Bar Harbor' is the lowest of all, less than a foot high with a year-round attractive green foliage. There are several good blue clones; "argenteus" has a fine blue color with long whipcord branches on a plant that becomes 18" tall; "venusta" is a darker blue and very low, less than a foot high at the center. 'Wiltoni' and "Blue Rug" are so similar they may all be the same plant. "Gray Carpet" has a gray-blue color with short branches, the mature plant 18" high. One of the most attractive plants in this group is one called J. h. "filicinus minimus" (small fern-like foliage). A twenty-five year old plant is 15" high in the center and 8' in diameter. The short branches have small and crowded foliage; the summer color is dark green, the winter color a bluish green.

Juniperus procumbens, Jap-garden Juniper, has long been popular and commonly grown. One plant is now 3' high in the center and 15' wide, very dense in growth with all branches turning upward slightly. The color is bluish green and all needles are sharp.

There are two hedges of Junipers. The oldest is 15 years and is made of staked common Pfitzer. The hedge is 4' high and 4' wide and in good condition with a good bottom line at the base. The other hedge is only 4 years old and planted with *Juniperus virginiana* "O'Conner." This originated as a witches' - broom on a *J. virginiana* f. *glauca* in the former Donaldson Nursery, Sparta, Kentucky. The plant has a natural globe shape; no leaders have been produced so far. The foliage is steel blue on rather long branches; it is a much faster growing plant than the parent. At the present time this is a fine looking hedge.

MODERATOR HILLENMEYER: Thank you very much, Mr. Nordine.

Our next speaker this morning is Mr. Alfred J. Fordham, of Arnold Arboretum, who will speak to us on Winter Survival of Some Difficult Cuttings.

WINTER SURVIVAL OF SOME DIFFICULT CUTTINGS

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Many kinds of cuttings which root easily present a survival problem during the subsequent winter, for when potted or flatted after rooting they go into a dormancy from which they never recover. In