NC STATE UNIVERSITY

JC Raulston Arboretum

Friends of the Arboretum Newsletter

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J. C. Raulston

Seasons greetings and a Merry Christmas to all! Obviously, I didn't make my announced September mailing date for the newsletter - a mere 3 months late, and I offer my apology. I could say it's because of a busy fall (and it has been, as you shall see) but realistically it's mostly just procrastination because of my fear of, and great agony in writing. But I have many exciting things to share of experiences, plants, new books and nurseries, and details of progress in the arboretum. And new that I've broken the block and begun - it will flow quickly and easily. First of the major events of the summer was the annual meeting of the Amer. Assoc. of Bot. Gardens and Arboreta at the Cary ARboretum in New York - perhaps the largest meeting of the group ever held because of proximity to so many gardens in the northeast U.S. Many interesting papers, superbly hosted and a treat to visit old friends from across the country and talk collections and plants. The most rapid growth and development in very active expansion programs. A major topic (and also later at the International Horticultural Congress in Germany) was the rapidly disappearing world flora and the attempts at preserving plants before extinction. An estimated 15% of the plant species on earth will be one by the year 2000 (only 18 years away). Botanic gardens and arboreta will be the "zoos" to keep many plants alive. Among the most interesting work in this area was that of Dr. Koopowitz at the University of California at Irvine, who is preserving seeds in liquid nitrogen with estimated potential life of hundreds of years. Huge collections can potentially be stored in a few drawers until needed for use or study - then be germinated and grown. Most fun of the meeting was a plant distribution of plants from recent China and Russian plant collecting expeditions and I brought back many exciting treasures for trial here.

In July, I received a trip from the American Association of Nurserymen to attend the national convention in Honolulu, Hawaii and while there received the L. C. Chadwick award given for horticultural teaching. It was a great trip and a treat to attend the meeting and trade show. The most exciting new concept seen was the development of techniques to successfully tissue culture the spectacular colored flowered mountain laurel cultivars (pink, chocolate, banded, red) by Briggs Nursery in Washington. In the next 2-4 years you'll see those wonderful new plants reach commercial markets. While in Hawaii, I went to the newly developed Waimea Arboretum and enjoyed the many tropical plants including the finest collection of Gingers and Heliconias in the world - truly spectacular flowers. My air ticket allowed one stopover, so I did a hectic 3 days in California with excellent visits (and plant acquisitions for the arboretum) with Polo de Lorenzo at Sonoma Horticultural Nursery (fine selection of azaleas and rhododendrons by mail - 3970 Azalea Avenue, Sebastopol, CA 95572, a full day at Western Hills Nursery in Occidental (magnificent garden, unfortunately no mail order), a long drive and fast but excellent visit with Jerry and Ed Hetzer of Little Lake Nursery in Auburn, CA. They have had the best magnolia collection in the U.S. with 420 species and cultivars - but are quitting due to ill health and are trying to find a permanent home for the collection - sad to see such an ending to a life of work building the collection. Wonderful people. And a must stop at Berkeley Hort. Nursery - then the things in a suitcase which is already full? Well - I did get them all back and they are grandiflora Nannetensis - large double-flowered type, and the luscious sounding Raspberry Ice deciduous magnolia.

July 29 we had our "summer garden event" announced in the last newsletter - perfect weather, garden in glorious condition, we had 1,500 plants to give away, others brought choice plants to give away also, superb food - but where was everybody? Unfortunately, only a handful of members came. We had a great time but a pity more couldn't have shared the plants and good time on that beautiful evening. I suspect many failed to note it on their calendar so far in the future. Do try to make it next time - we missed you (and I had to discard nearly a thousand rooted cuttings of rare plants propagated for giveaway).

August and early September were spent in Europe, touring gardens and nurseries on my own, leading a nurserymen's tour of Holland, Germany, Denmark, and Sweden, and attending the International Horticultural Congress (held each 4 years) in Hamburg, Germany. Gardens visited included in England - Oxford Botanic Garden, Kew Gardens, Wisley Gardens (where I got my long-wanted Cornus controversa variegate - and carried it all over Europe for 3 weeks before returning); Holland - magnificent 1982 Floriade - 2 days barely scratched all that was there, Amstelpark (site of the '77 Floriade), Rosarium Westbroekpar, the wonderful Arboretum Trompenburg, the Boskoop nursery industry; Denmark - Tivoli Gardens, Copenhagen Botanic Gardens; Sweden - University of Alnappgardens; Germany - 2 major nursery production regions, Breman Rhododendron Park, Hamburg Botanic Garden, Rhododendronpark Hobbie, Westfalenpark and the Botanical Gardens in Dortmund, Palmengarten (largest greenhouses in Germany) and Botanical GArdens in Frankfurt, Botanical Garden in Giessen (oldest in Germany and world's first university forestry garden), Schlosspark Wilhelmshoke in Kassel (a spectacular mountainside landscape garden), Munich Botanical Garden; Austria - Schloss Hellbrunn in Salzburg (a grand water features garden);

and Italy - Villa Taranto (the "Italian Kew" with magnificent plant collections), totaling about 1,500 slides which I'll share at an upcoming Friends talk. The ISHS Congress was quite a thrilling experience with over 2,000 scientists attending from 70 nations; 5-8 sessions going concurrently for 6 days - so many to meet and so much to take in. I presented a paper on the NCSU Arboretum (now the JC Raulston Arboretum) development (what sheer audacity - before directors of the world's leading gardens, and in Germany which has the best botanic gardens anywhere!) - they were kind, and complimentary of how much we've done with so little. One garden spent more on an entrance sign alone than we've had total to work with since beginning! Most fun was doing a half-hour interview with an Australian radio system on our arboretum for broadcast nationwide there.

I returned a week after classes began in September and scrambled all fall playing catch up with an extra busy schedule; teaching 3 nights a week and driving to Salisbury an Asheville for classes in addition to my regular campus duties. But it has gone well and happy to have survived it - the spring is a much lighter and easier schedule and I'm looking forward to that. In the arboretum this fall, I've been working with an undergraduate student, Bob Hays, on an updated mapping and inventory of the collection for transfer to a computer record holding system in the spring for better access. We're nearing completion and I hope to have the complete list available for members soon - I'm anxious to see it myself just to see in one place what we have and how many plants are in the collection - I'm guessing close to 2,000. We've been working hard on the west half of the arboretum - the University has supplied some extra funds to allow us to obtain enough bark to mulch all the planting beds now laid out, no small matter with over $2,000 in bark already and to finish the remaining beds which we'll lay out next spring will take another thousand dollars. Two work weekends with students have gotten hundreds of new plants installed so if you haven't been to the arboretum in awhile many changes have occurred. The "great perennial plantout" was delayed with other work going on, but we're going to try it a little water - see announcements below. Most exciting has been the design work going on in the HS 416 Planting Design lass - some superb student design work for the fencing border, and the Japanese garden - all to be under way in the spring. Our immediate project is an Ericaceous display bed at the east side of the rare plants lathhouse where we will install a complete collection of the excellent NCSU azaleas developed by Dr. Fred Cochran, native azaleas of the S.E.U.S., heaths and heathers, and other similar plants. Top priority now is to get the collection completely relabeled since so many labels are missing or deteriorated. Alas, it will b e the same system we're presently using - but at least it will be labeled. "Good" permanent arboretum labels now run ca. $5 per plant - about $10,000 for our present collection - and far beyond our resources. Does anyone need a good, deserving organization to help with their excess charitable dollars?

A few notes from the Summer and Fall Recordbook:

- June - cool weather and good moisture continued much later than normal in the summer and the growth of many plants normally limited by heat was far better than usual, and the color intensity on colored foliage plants was excellent. The paperback maple, Acer griseum, put on 20" of new growth as compared to 6-10" each of the last 2 years and color of Forest Pansy redbud and the purple foliaged birch was truly purple for the first time since we've had them. The cooler temperatures also resulted in good fruit set on Lonicera mudeniensis, morrowii xanthocarpa, and tataica for the first time.
- 6/15 - Lagerstroemia Near East the first crepe myrtle in collection to bloom (and one of latest - longest bloom span of any cultivar).
- 6/23 and 7/4 - Violent storms hit, and apparently a tornado hit one corner of the arboretum destroying the large old Bradford pear, twisting the Halesia diptera right out of the ground, and shattering limbs in the Acer October Glory and A. ginnala. The wind also broke out the top of the Paulownia an blew over plants of Parrotia, prunus mume, Acer davidii, several Cupressus, Aronia arubtifolia, and one of the large Lombardy poplars. Luckily the Leyland cypress held.
- 7/8 - Last of the collection of variegated foliage geraniums kicked off - a very disease susceptible group of plants in our heat and humidity. By contrast, the many scented-leaf geraniums nearby grew vigorously all summer and had no disease problems. Buddlea, Vitex, Gordonia, Lagerstroemia, Leycestra, Hibiscus, and trumpet vines in full flower.
- 9/5 - (return to arb. after Europe) The Laburnocytissus graft (from newsletter #5) has made 3' of growth; pots of jamboree, Golden Splendor, and Bonfire lilies blooming in visitor center; the purple Tibochina (a tender tropical plants in a planter at the center) is magnificent - catching everyone's eye - good potential summer bedding plant; Caryopteris in bloom; grasses getting good - the Fountain grass sown from seed in May is quite spectacular needs greater home and commercial use - fast, cheap, showy; blackberry lily in seed; Erica Pete Sparkes and E. cilaris Mrs. ill in Bloom in lathhouse.
- November - Plants with excellent fall foliage color - cutleaf sumac, ashes, Japanese maples, Lagerstroemia Catawba, Cotinus coggygria (and newly arrived C. obovatus was superb and should be magnificent in future years); fall berry display - display best by far Aronia arbutifolia - dazzling, Pyracanthus, Callicarpas, Viburnum setigerum (interestingly the birds ate fruit of the yellow-berried form as soon as they changed color - but did not bother the red), Euonymus americanus and Nandinas; fall flower display - Hamamelis virginiana, Camellia Yuletide, Arbutus unedo, Euryops pectinatus, our gardy giner - Zingiber sp. - wonderfully fragrant, an unusual GErman iris hybridized by Tony Avent, horticulturist for the state fairground, which blooms all of November, and the extremely spectacular giant sunflower Helianthus giganteus (or angustifolius?) which made a blaze of yellow 6' wide and 8' tall - probably the showiest bloom I've ever seen on a perennial.

Announcements of Coming Events

- Winter Slide Show - On Thursday night January 13 at 8:00 I will present a slide show on highlights of the European gardens discussed aboge which I visited in August. The talk will be held in Room 159 Kilgore Hall and we will have a special plant distribution at that time - a rare plant on the U.S. endangered species list which we've propagated here.

- Night Courses - For the first time, 3 NCSU horticulture courses will be taught at night for the public this coming spring. HS 101E - Plants for Home and Pleasure) a general home gardening course) on Wednesday 7:00-8:40 PM; HS 416 Principles of Ornamental Plant Design (a landscape planting design course) on Tuesdays 6:00-10:00 PM; and HS 531 Physiology of Landscape Plants (climatic factors in why plants fail or succeed in the landscape (on Mondays 7:00-9:00 PM. Enrollment may be handled through the Divisions
- of Continuing Education at the NCSU McKimmon Center on Western Boulevard. Classes begin January 12 and continue 15 weeks.
- Summer European Trip - It's too early for details, but you may be planning next summer's activities and I want to mention that I will be leading a 14 day plants, landscapes, gardens, and nurseries tour to southern Germany, Austria, Switzerland, and italy around the last two weeks of July. The highlight (other than Austrian pastries of course) will be the IGA show (held each 10 years as a World's Fair of Horticulture), this time in Munich. Price will probably be around $1,800-2,000.
- "The Magnificent Mammoth Perennials Plantout" - I had intended to try to squeeze in a planting date before Christmas - but as this "goes to press" we're looking at a huge design change that can't be altered easily once it is made - so rather than rush and be sorry later, I'm going to just store the plants for now and reschedule later.
- Next Newsletter - (Hopefully!) in January with more information and announcements. People often forget the arboretum in winter - dozens of things flower then: foliage, fruit, bark all show special interest in winter (have you seen the wild corkscrew mulberry by the Visitors Center since it dropped the leaves?) - Visit often.

Quotes enjoyed:

From Garden Design by David Hicks (Routledge & Kegan Paul, 199 p.)

"Do not let contractors work when you are away: be there and work with them. You will get infinitely better results."

"A neglected garden is a paradise for weeds - but I tend to have a relaxed attitude to them after late July. I would really prefer a profusion of annuals to weeds but there is so little time to get everything perfect, and I actually think late summer weeds add a little romance. All right, we can all call our gardens "romantic"!

The following excellent articles on native azaleas recently appeared in the Georgia Nursery Notes and is reprinted with permission of Mr. Galle. A fine little booklet on native azaleas with further information and color photos is available from Mr. Galle for $1

Native Azaleas --- A Potential Item for Southern Nurserymen

by Fred Galle, Curator, Callaway Gardens, Pine Mountain, Georgia

The native azaleas have been called, by many plant authorities, the most beautiful of all our indigenous shrubs. They have received high praise from English and European gardeners, possibly more than in their own country. Many misbeliefs, together with a confusion of names, surround these azaleas. Oftentimes, they are called "Bush Honeysuckle" or "Wild Honeysuckle," when actually they are rhododendrons. Botanically, the native azaleas belong to the genus rhododendron, a member of the Ericaceae, or Heath family, which includes mountain laurel, sourwood, blueberries, and other acid-loving plants. There have been, in the past, some questions about the separation of rhododendrons and azaleas.

Native azaleas range in color from white, yellow, orange, scarlet, crimson, in many vivid shades and hues. Some can be found with)or without) conspicuous color blotches in the throat of the flower. Under proper care, they produce an abundance of bloom and can equal, or surpass, in brilliance of color, many of the hybrid and horticultural varieties of azaleas. Native azaleas are also hardier and require less care than many of the cultivated or introduced species. Native azaleas are best used in informal gardens where some shade is provided. They also serve exceptionally well in wooded areas of naturalistic gardens.

With the proper selection of species, native azaleas will provide flowers from late March an early April until July and August. They can be combined with many of the other evergreen azaleas and with other evergreen plants. Azaleas are particularly attractive where they are used in mass plantings, rather than as specimen plants, with a good green background to show off the exquisite flowers. Azaleas are adapted for light shade and particularly should have shade during the hottest part of the day. An excellent location combines sun in the morning and late afternoon.

Classification

Native azaleas, taxonomically, are very difficult to classify, since there is a great deal of similarity between various species. Natural hybridization occurs within the various species and results in many non-typical forms. A brief description of the various species of azaleas that are known to do well in south follows. The description will be given in order of flowering in Callaway Gardens in west central Georgia.

Florida Azalea:

One of the first to show color in the sprig is the Florida azalea, Rhododendron austrinum, flowering in late March and early April with fragrant yellow flowers, borne before the leaves have developed. The plat will attain heights of over 12 feet and is native to north and western Florida, southwest Georgia, southern Alabama, and southeast Mississippi. The plant has, in spite of the fact that it is called

Florida azalea, been found in a larger territory outside Florida than within that state. Aside from its flower color, the general characteristics of this species are very similar to those of the Piedmont azalea. The flowers may be more glandular and occasionally the tubes of the flowers may be pink to strawberry red.

Piedmont Azalea:

White to light pink are the colors of the fragrant flowers of the Piedmont azalea, RE. canescens. The plants flower from late March and early April and re native from north Florida to Texas, Alabama, Tennessee, Georgia, and to North Carolina. It is most abundant of all the native species of the south and is found in nearly all the southern states. A large shrub, often ten to fifteen feet in height, it offers exquisite pink shades, in masses or airy flowers. It is commonly found in various habitats, along streams and dry ridges.

Oconee Azalea:

Rhododendron flammeum, the Oconee azalea, with its typical orange to orange-red flowers, is one of the most attractive azaleas for the south, often erroneously called the Flame azalea. This is a non-glandular species having no pinhead glands on the flower tubes, as contrasted with the Flame azalea, and it flowers three to four weeks earlier, normally, than the Flame azalea. The plants are found native in open woods and wooded slopes from western Georgia, in a narrow band through the central part of the state to South Carolina. It varies from low mounding shrubs to plants over six feet in height. While the non-fragrant flowers are normally produced at the end of the flowering period of the Piedmont azalea, there are seasons when there is considerable overlapping of the flowering with natural hybridization occurring. As a result, individual plants may be found with large pink to salmon fragrant flower clusters and some with small red flowers which will have the pinhead glands such as are found on the Piedmont azaleas and with some of its leaf characteristics, as well. The fragrant hybrid forms are quite interesting. While the Oconee azalea is a most handsome species, it is rapidly becoming extinct because of the heavy population expansion in its native habitat.

Pinxterbloom Azalea:

Pinxterbloom azalea, Rhododendron periclymenoides, is only found in the northern most areas of the south, in North Carolina and Tennessee, and extends up into Ohio and northward into Massachusetts. It is a dwarf and stoloniferous plant, forming large colonies, yet may grow to medium or large size. Fragrant white to play pink to deep violet-red flowers are produced by this hardy plant and it can be used in many areas of the south for mass planting. The plant flowers normally in early to mid-April and is commonly found in dry, open woods and is the parent of many of the garden hybrids used in the north. Rhododendron periclymenoides is rather difficult to separate from another northern species, the Roseshell azalea, R. prinophyllum, which is found through northern Ohio and northeastward into New England.

Pinkshell Azalea:

In the mountains of western North is found the Pinkshell azalea, Rhododendron vaseyi, a tall, upright, mid-season flowering plant. The flowers borne usually in mid-April are a rose-pink in color with green throat and with orange-red dots on the face of the upper petal. The flowers are most attractive and have a delicate appearance. The adaptability of Pinkshell azalea in the south is unknown. In central Georgia, both the clear pink types and the white flowered form are well adapted. This handsome plant certainly should be tried in many other areas of the south. The flowers lack the distinct tube which is typical of most of the native azaleas, being more bell-shaped and appearing to have separate petals. By some botanists, it is not treated as an azalea, but placed in a separate genus, Biltia.

Alabama Azalea:

The Alabama azalea, Rhododendron alabemense, is a fairly rare, or scarce, plant of dry open woodland hills of north central Alabama and, in isolated areas in westcentral Georgia. The typical species is a low plant, three to six feet in height, quite stoloniferous in its habit of growth. The plant flowers in mid-to-late April, white with a distinct yellow blotch, and producing an attractive lemon fragrance. The plant hybridizes readily with R. canescens, than the typical species and are taller growing. These hybrids are widespread in Georgia, Alabama, Mississippi an Tennessee. They are often grouped with R. alabamense and are equally attractive filling in the gap between the flowering of the two species.

Coastal Azalea:

The Coastal azalea, Rhododendron atlanticum, is native only of North and South Carolina in the south, but is found in the coastal regions of Pennsylvania and Delaware. It is a low-growing species, very stoloniferous in its habit of growth; the flowers are white flushed with red, sometimes with a distinct yellow blotch and a very pleasing fragrance. The plant is extremely hardy and should be tried more in the south. Many of the forms have leaves that are quite glaucous, or whitish, on the underside. The plant is known to cross with many other native species, including R. canescens and R. periclymenoides.

Swamp Azalea:

The Swamp azalea, Rhododendron viscosum, is native in Alabama, Georgia, Tennessee, and north to Maine. It is a low, dense stoloniferous plant, but occasionally, forms may be found that are quite tall and upright. The flowers are distinct, with slender tubes, white to creamy-white in color, with a strong spicy fragrance. The flower tubes are very glandular and quite sticky to the touch. The

species is useful in the home landscape for its fragrant, late flowers which generally appear in mid-May to early June. At high elevations, the plant is often found as a low, mounding shrub and yet, along moist streams, it can become quite tall. It is often found in a pink form, which is thought to be a hybrid with R. arborescens and other species.

Flame Azalea:

Flame azalea, R. calendulaceum, has already been mentioned, together with Oconee azalea, as being one of the most attractive of native azaleas, whose southern limits are in Georgia's Piedmont areas. It is found further north, extending into Pennsylvania and Ohio. It is an upright, fall, late-flowering shrub. The flowers are generally somewhat larger than other native azaleas. It is tetraploid, having twice as many chromosomes as the other species. Flowers appear after the leaves are fully matured, in late May or early June. The orange to orange-red flower types are usually from high elevations. The color of the plant varies from light orange to distinct yellow. When grown well, it is a handsome attractive plant. The flowers are non-fragrant and are generally glandular on the tubes, as contrasted with the non-fragrant Oconee azalea, which is non-glandular.

Sweet Azalea:

The best of the native white azaleas, called the Sweet azalea, is Rhododendron arborescens. It is generally found near streams and on moist mountain tops in Alabama, Georgia, Kentucky, Tennessee and northward into Pennsylvania and New York. It is generally a tall, upright growing plant, reaching six to eight feet in height. The flowers are pure white, occasionally with a pink or reddish flush and often with a distinct yellow blotch in the upper petal. The style of the flower is usually pink and is quite striking against the snowwhite petals. The fragrance is very much like heliotrope. The plant is very hardy and reliable in most areas. Typically, Sweet azalea flowers in late May and early June.

Baker Azalea:

Rhododendron bakeri, the Baker azalea, is also called the Chamberland azalea or R. cumberlandense. The plants are found in open woods, generally at high elevations of the Chamberland Plateau, in Kentucky, Tennessee, and the mountains of north Georgia and Alabama. The plant is variable in height from two to five feet and sometimes even taller. The non-fragrant flowers are very similar in color range to the Flame azalea, varying from yellow, orange, to extension of flowering is noted. Generally, in our area, it flowers in late June and early July. R. bakeri is thought to produce natural hybrids with R. arborescens and other species, adding to the interesting color forms that are found within the native azalea. This plant has been little used in the south, but is certainly one that is worthy of further trial to product the orange an orange-red color range later in the season.

Hammock Sweet Azaleas:

The Hammock sweet azalea, R. serrulatum, is a native of the wooded swamps of the southern Coastal Plains, from east central Georgia to central Florida and west to Mississippi and Louisiana. It is a very tall plant, producing white to creamy-white flowers in late July to early August. Flowers have a long slender tube, much like R. viscosum, and are quite glandular and sticky, with a notable clover scent. Its importance is due to late flowering and delightful fragrance.

Plumleaf Azalea:

Plumleaf azalea, or 'Prunifolia' azalea, Rhododendron prunifolium, is found in restricted areas along southwestern Georgia and along the easter border of Alabama. It is a tall shrub, often reaching fifteen to twenty feet in height, flowering after the leaves are fully developed. The color of the flowers varies from orange to a deep red. It is in flower with us during the first o July and there is sporadic bloom on certain plants as late as August and occasionally into early September. This is a very delightful plant with its brilliantly colored flowers standing out in contrast to the dark green foliage. The flowers have no fragrance. Its use, like the other late flowering azaleas, should be confined to shady areas to avoid hot sun on the flowers.

Other Deciduous Azaleas:

There are other introduced large-flowered azaleas that are available in the south, but generally are not too satisfactory. The following could be mentioned. The first are the Ghent azaleas. These plants are very cold hardy, but of those that we have tried so far, the only ones that are satisfactory with us are R. 'Narcissiflora' and the variety 'Daviesi.'

The Mollis azaleas are often seen in northern gardens, but generally are not satisfactory in the south. We have tried many of the new and recent introductions of Exbury an Knaphill azaleas and found them to be disappointing. These plants are very striking in flower and certainly very tempting to try because of their very large, attractive flowers. However, their failure to respond to our warm summer conditions is the main drawback.

Recent changes in names -- The Oconee azalea from R. speciosum to R. flammeum. The Pinxterbloom azalea from R. nudiflorum to R. periclymenoides. Roseshell azalea from R. roseum to R. prinophyllum.

Native Azalea Culture

by Fred Galle, Curator, Callaway Gardens, Pine Mountain, Georgia

The culture of native azaleas is not difficult. In fact, it is one of the easier plants to grow, if good plants are available to begin with. In the past, the general trend has been for collectors to dig plants bareroot or with very small balls for sale in the open markets of our larger cities. These plants, unless given drastic treatment such as cutting the tops back and "babing" for one to two years, are often dead within the first season.Collecting Plants:

Planting Procedure. The site for native azaleas should be one having some shade which is particularly important for the later flowering species. Likewise, there is a need for good soil drainage. Spacing of plants varies. Generally, we recommend spacing five to six feet apart, but closer spacing will give you immediate effects and is important for mass planting.

Azaleas prefer acid soils of a pH of 4.5 to 5.5 and the soil should be loose with a high humus content. Additional organic matter should be added to the heavier soils and even to the sandy soils. Such organic matter may be leaf mold, pine bark, rotted sawdust, compost, or peat moss.

After the plants are planted, they should be watered immediately and then weekly throughout the season during the first year, unless adequate rains prevail. The general season for planting is the late fall, early winter, or early spring. The planting holes should be quite large. It is not necessary to have a deep hole, since most azaleas are shallow rooted. Considerable organic matter should be mixed in with the planting soil in planting.

In heavy clay soils, it may be necessary to remove the clay and to add more sand and organic matter and to plant the azaleas higher than the surrounding beds. Watering then is very definitely of major importance. Mulching is also important. We are fortunate in the south in having many types of material available for mulching -- leaf mold, pine straw, coarse peat moss, pine bark, peanut hulls, and others. It is imperative that the mulch be kept on plants the year around the that it should be frequently replenished, especially during the summer, to conserve the soil moisture during the season. Since native azaleas are shallow rooted, it is not advisable to cultivate around them. Weeds can be hand pulled rather than to use a hoe or chop them out.

Many in the south are fortunate to have native azaleas on their own farms and woodland areas and may wish to move them to more appropriate areas in the landscape planting. If this is the case, small plants are moved best, it is advisable to observe your plants and tag them or mark them while they are in flower a year prior to moving. The plants are moved best in the fall or very early spring. Careful digging should be practiced to obtain as many roots as possible, for woodland azaleas are noted to have very poor root systems. The roots are often very widely spread and limited. The plants should be severely pruned after digging, cutting them back almost to the ground, six to eight inches high. In our garden, where we move large quantities from areas which are rapidly going into subdivisions, it is our practice to cut the plants back quite severely, heel them into a rich mixture this time, the plants are watered frequently throughout the growing season and are fertilized periodically. We have, on some occasions, moved plants in mid summer and during the flowering season. However, such plants respond much slower and it may be two years or more before plants are re-established and have begun to set flower buffs. Cutting back is important, removing the top of the plant to compensate for the very poor root system that is usually found on collected native azaleas.

Maintenance: There are many acid base fertilizers available for use with native azaleas. Commercial azalea and camellia fertilizers are recommended, as well as cotton-seed meal, if it is available. We have also used a high nitrogen fertilizer such as a 10-5-7 analysis and one of the slow release fertilizer mixtures containing Ureaformaldyhyde area in late March or early April, just prior to the early flowering of the R. canescens, is usually right. If rains are not forthcoming, it may be necessary to water the fertilizer in and then a second application of fertilizer should be applied in late June or early July.

Iron Chlorosis: A common fault in native azalea is iron chlorosis. It is not as common with the natives as it may be with some of the cultivated azaleas; however, the same symptoms of yellow leaves with very green and prominent veins are characteristic of chlorosis. it can generally be corrected by applications of iron sulfate or ferrous sulfate, one ounce to a gallon of water to which a spreader-sticker material has been added, applied as a spray to the foliage and also applied to the soil as a liquid drench. If this does not correct the situation, then magnesium sulfate, or Epsom salts, may be applied at the same rate. Also available for iron chlorosis, are many forms of iron chelates.

Propagation: Propagation of native azaleas will be mentioned briefly. Cuttings of native azaleas are generally somewhat difficult to root, as compared to ornamental azaleas. Some of the plants which have stoloniferous habits of growth are much easier to root than the more upright or non-stoloniferous forms. There is extreme variation, however, within the species. You may find that one clone or variation will be easy to propagate by cuttings, whereas another will be extremely difficult. There are two major problems in root cuttings of native azaleas--the first is getting them to root and the second is inducing new growth to form after rooting. Mist propagation is preferred and cuttings should be made of new growth in late spring, while the stem is still green and just beginning to harden. Normally, under mist propagation, a sand medium is recommended, or a mixture of sand and pat cuttings potted to induce new growth before fall. Seventy-five watt bulbs, placed 3 ft. apart and 3 ft. above the cuttings, will provide adequate light to keep the plants vegetature. It has been noted that cuttings that root and then fail to put on new growth in the same season will often die overwinter. So, it is important to get the rooted cuttings to develop new growth the same season in which they are rooted. Nurserymen who shift the pot liners to the greenhouse with a 5- degree night temperature plus the night lights will find that they can produce vigorous plants for shifting to gallon containers by late spring.

Layering is a satisfactory method, but a slower and less productive method of propagating certain clonal varieties of the native azaleas. Layering can be done in either the spring or the summer and branch or mound layering is the recommended method. With this method, a low branch is bent down and staked to the ground with a peg and a wire fastener to hold it. You may wish to even dig a trench to which is added peat moss or organic matter around the branch. It may take a year or two for the plant to root and become strong enough to ut from the parent. Occasionally, the stem can be slightly wounded with a long, narrow cut, or it can be cut upward, having a tongue that will be coming down from the tip part of the branch. It is also sometimes suggested to root-prune native azaleas. By doing this, many times, the severed root will form a new shoot which can then be dug away from the parent plant, one or two years later.

Root cuttings can be made of native azaleas. Such cuttings can be made as they are dug by cutting root pieces three inches in length, pencil size in diameter. There are laid horizontally in a mixture of peat moss or ground sphagnum moss and lightly covered. Root cuttings are noted to be very slow to produce new shoots, often requiring over a year.

Propagation from Seed: Propagation of native azaleas by seed is one of the best methods for mass production. The seedlings will be quite variable and will not always have the same brilliant color as the parent, but usually they will have the same color range as commonly to turn brown and before they crack open. Seed can be stored until the following spring or be held until fairly dry and then shaken thoroughly and cracked to get all the very small seed out of the capsule. One seed capsule usually will contain, on the average, two hundred moistened and the seed broadcast onto this medium and watered in lightly. No additional covering is necessary. Watering will carry the seed into the shredded material.

Seedlings will generally start to grow within thirty days and after the second set of true leaves has appeared, the seedlings can be pricked off into separate flats into a mixture of soil and sand peat moss, spaced 1" apart or planted into peat pots. After the seedlings are two to three inches in height, they should be pinched to induce side branching.

New Nursery Sources Recently Discovered

Unusual fruit trees are available from Henry Leuthardt Nurseries, Inc., Montauk Highway, Box 666, East Moriches, Long Island, New York 11940 (516-878-1387). The listing has historic and choice European varieties of pears, apples, plums, cherries, peaches, cherries, nectarines, and apricots. The most intriguing materials for sale are their preformed espaliers ready for placement on a wall or trellis - how often does one see a 6' tall four-armed palmette verrier pear for sale? (Standard trees at $7-11; specialty espaliers at $20-90).

A place I haven't seen (but it sounds fascinating) is The actus Man, operated by Hallie Kelly in Beaulaville, NC (ask for directions at Glenn's Service Station in the middle of Beaulaville). No mail order but apparently an unforgettable experience to visit the operation - an extremely wide array of cactus, of course, but also many tropical and other plants. Beaulaville is about 40 miles from the N.C. coast - south of Kinston - and could be included with weekend trip to the beach.

A noted retail garden center and mail order (74 page catalog) nursery carrying an extremely wide array o plants is Carroll Gardens, P.O. Box 310, 444 East Main Street, Westminster, Maryland (301-848-5422). Ground covers, wild flowers, perennials, rock

garden plants, trees and shrubs, dwarf and unusual evergreens, fruit trees, and other plants are listed - with many uncommon cultivars listed.

For those who like to try growing woody plants from seeds, a new catalog from Samlesbury Tree Seeds, The Boat House, Potters Lane, Samlesbury, Preston PR5 OUE England (213-077-477) lists an exceptionally wide range of unusual species. No special permits are necessary to receive seed from overseas and you can order as easily as from an American seed catalog. For example, they list 97 different pines alone and such conifer rarities as Agathis, Phyllocladus, and Tetrachinis.

Though I know little about the group of plants and work more with woody plants, I continually learn of other useful garden plants and recently discovered The DAndy Mush Herb Nursery, Rt. 2, Surrett Cove Road, Leicester, NC 28748 (704-683-2014) as a source for a wide array of herb seeds, plants, and books. I strongly believe in supporting developing N.C. businesses, so if you've been buying herbs from the Northeast (or elsewhere) U.S. - consider this source. About 400 different plants including some 38 different Thymes alone.

A 28 page catalog of sun and shade perennials (and a nice range of some 30 different ornamental grasses) is available for $1.00 from Andre Viette Farm and Nursery, State Route 608 Route 1, Box 16, Fishersville, Virginia 22939 (703-943-2315)

For a group o unusual bulbous plants definitely out of the ordinary I would recommend Nerine Nurseries, Welland, Worcestershire, England WR136LN. An amazing assemblage of species and new hybrids of this beautiful (and rarely seen in the U.S.) genus. In N.C. - most areas could handle them only as tub plants moved into protected areas for the winter - the hardiest types would do in eastern n.. They look like more graceful, many flowered amaryllis or lycoris and most bloom in the fall August-December. Prices $2-14 a plant.

I seldom push a new source twice in the newsletter (though they get added to our ever lengthening list of catalog sources) - but I want to once again mention the extraordinary list of Woodlands, Inc. 1128 Colleton Avenue, Aiken, S.C. 28801 - because their list evolves and changes each year as sources of rare seeds are acquired, grown on a one-time basis and new materials constantly being added. Their new list is extraordinary, and I want 10 times what I can afford!

Another source that sounds exciting (I've just ordered and am anxiously awaiting the catalog arrival) is Colvos Creek Farm, Rt. 5, Box 51, Vashon, WA 98070 operated by Mike Lee and pete Ray. My friends at Western Hills Nursery (in itself one of the extraordinary plants nurseries of the country - but no mail order) made me aware of the nursery with rave comments about their selection - "you must get

their list to see just how mad and enthusiastic people can be over rare plants."

A new production and retail sales nursery opened in the Triangle area on September 13 with the goal of providing unusual plant materials, quality information about the plants and an attractive display: shopping environment for customers. The nursery is Shadybrook Gardens, Rt. 2, Box 211-A, Chapel Hill, NC 27514 (919-929-7414) and is operated by Becca Zinn and Morris King. Directions: From NC 86 (between Chapel Hill and Hillsborough) turn west onto Mill House Road which is between Allen's Barbeque and the railroad tracks. On Mill House Road cross railroad tracks, go 3/4 mile. Go o a visit and support this new venture which will benefit gardeners of the Triangle Area.

Book and Publication News

It has been a pleasurable experience to encounter a fine American plant adaptation book resulting from an American-English collaboration in writing. The book, Ornamental Shrubs by C. E. Jucas Phillips and Peter Barber in association with William Flemer, III of Princeton Nursery (Van Nostrand Reinhold Co., 320 p., $29.95), impresses me with its layout and design and simple effective information on unusual plants rarely discussed in lay and design and simple effective information on unusual plants rarely discussed in American books. For the first time in my experience I have finally found a reference that pairs the same cold hardiness zone map system (Arnold Arboretum, not U.S.D.A.) for both Europe and North America side by side (p. 58-59) so one can compare the winter climates of various areas. The weakness for N.C. of course is that summer temperature differences are also critically important in plant survival and no mapping system yet outlines that factor. Raleigh, London, Amsterdam, Paris, Hamburg, and Bonn are all listed in the same hardiness zone but we certainly do not all grow the same range of plants. For the first time I finally can get some rough idea of the hardiness and potential adaptability to N.C. of such extremes shrub novelties as X Amelasorbus, Bupleurum, Coronilla, Daphniphyllum, Ozothamnus, Sinowilsonia, Vella, and Xanthoceras; as well as our common standard materials. The first 60 pages cover design and display, weather elements and cultural techniques with the remaindr devoted to individual plants. In an hour f reading I probably picked up more information new to me than I've encountered in quite some time. A good, useful book. The special English phraseology is often a delightful charm in reading; with the most amusing one I saw here in a listing of plants appropriate for "degenerate" areas - no, not for landscaping a massage parlor or porno book store, but plants for bad, poorly drained, low fertility soils!

A new publication I recently discovered is Plant Lore, 16 Oak Street, New York 14454. Two issues are published each year ($6) and it reviews popular lore and legends relating to plants; e.g. garden lore, agricultural mythology, sacred plants, religious and festival uses of plants, folk botany, Indian plant lore, symbolism of food and beverages, origins of plant names, commemorative uses, etc.

New rhododendron book. Greer Gardens, 1280 Goodpasture Island Road, Eugene, OR 97401 (503-686-8266) has always tempted with their annual catalog of choice "goodies" - rhododendrons, azaleas, conifers, Japanese maples. In addition to their usual extensive catalog list of rhododendrons, etc. - it was god to see listed this fall, 8 cultivars of the japanese apricot, Prunus mume (at $1010-13@) which I've long pushed as the earliest flowering spring tree but virtually unavailable commercially, and 6 cultivars of mountain laurel, Kalmia latifolia (at $5-7@ depending on quantity) - the brown, pink, and red-flowering types. Their recent fall catalog supplement leaflet announces a new book they have published. Greer's Guidebook to Available Rhododendrons - which describes over 2,000 rhododendron hybrids and species and contains 110 color photos. Price is $12.95 plus 86 postage. For those interested in a useful reference on rhododendrons, this book (an expansion of their catalog plus more photos) will give basic descriptions and tolerances of a wide array of species and hybrids. One of the more useful features is a comprehensive chart at the rear on distinctive features of various hybrids - bloom period, tolerances, plant size.

Martyn Rix and Roger Phillips - 1981 - The Bulb Book, A Photographic Guide to Over 800 hardy Bulbs. Pan Books Ltd., Cavaye Place, London SW109PG. 192 p. One of the best bulb books I've seen - their description as follows:

"In this lovely and informative book, species from all over the world, including North American, are shown. Plants with corms, tubers, and rhizomes, as well as true bulbs, are included, both monocots and dicots.

An exciting feat impresses me with its layout and design and simple effective information on unusual plants rarely discussed in lay and design and simple effective information on unusual plants rarely discussed in American books. For the first time in my experience I have finally found a reference that pairs the same cold hardiness zone map system (Arnold Arboretum, not U.S.D.A.) for both Europe and North America side by side (p. 58-59) so one can compare the winter climates of various areas.s are arranged in order of flowering as an aid to the gardener in planning a display. The gardener will also appreciate the information on habitat and distribution, advice on cultivation, and the list of British suppliers and bulb societies."

Available for $16.45 (includes postage) from Mad River Press, Rt. 2, Box 151-B, Eureka, CA 95501. (In itself a new source of books I've not listed before. Most books in their catalog are of a technical nature on botanical subjects - mushrooms, lichens, etc.)

Diane Mathews. 1982. (updated annually). Travel Guide to Herb Shops, Farms, and Gardens. For those interested in herbs that would like to stp and visit such places in their travels, this should be a useful reference. I don't know its cost, but it is available from Diane Mathews, Box 134, Salisbury Center, NY 13454-0134. Along that line, I recently encountered a N.C. source of "ethnic herbs, herbal alpines, wildflowers, scented geraniums, and wide variety of very unusual herbaceous materials from all over the world." Contact Mr. Richard F. Durfresne, 4407 Williams Dairy Road,Greensboro, NC 27406 (919-674-3105).

For those interested in garden history I recently was shown two "new" (i.e. reprinted) books that cover areas of U.S. garden history that is relatively unexplored. Earliest f these was McMahon's American Gardener by Bernard McMahon (after whom the genus Mahonia was names), originally published in 1806 as the first widespread popular book in the U.S. on plant culture and use (a claim normally given to Downing's The Theory an Practice of Landscape Gardening 1841) - it was the Wyman's Encyclopedia of its day and still remains readable, enjoyable and even useful today. It was reprinted in 1976 by Funk & Wagnalls Publishing Co., Inc. in a 637 page edition.

A book covering a later phase of America is Victorian Gardens Part 1: Suburban Home Grounds by Frank J. Scott. Originally published in 1870, it was reprinted in 1982 and is available from: Library of Victorian Culture, American Life Foundation, Box 349, Watkins Glen, NY. Full of details on plants and planting designs for American Victorian home gardens.

The most meaningful book to me that I've discovered in many years was a special treat of the fall. When I was a child back in rural Oklahoma (in the days long, long ago when dragons roamed the earth) our small one-room country schoolhouse had a a book very important to me that I read many times. Over the last decade or two, I've often though how I would like to find that book again and recapture that childhood experience - but never discussed or mentioned it to anyone assuming it was an unknown minor children's book printed probably in the 30's and likely not even in existence anymore - but could perhaps be found in the Library of Congress with great effort someday when I retired. In October, for some reason, I casually mentioned it to Will Hooker, landscape architecture teacher in our Horticulture Department, and he indicated he had it at home and his daughter was reading it. I was astounded - the first time in 30 years to mention the book, and he had it! So it became my bedtime treat for a month, carefully rationed out at a few pages per night to make it last al long as possible. Happily the magic as still there - a great treat. The book is The Secret Garden, written in 1911 by Frances Hodgson Burnett who moved from Manchester, England to Tennessee while in her teens and who wrote 40 books and stories before her death in 1924. The book recounts the adventures of Mary, Colin, and Dickon in a secret locked overgrown walled garden at Misselthwaite manor as they discover the garden an by pruning and planting bring it back to its former glory. Since my rediscovery of it, I've talked to many people and found it is considered a classic children's book and still widely sold today (a paperback edition is available from Dell Publishing Co., Inc.) with over 1 1/2 million hardcover volumes printed alone. I've discovered most of our horticulture majors read it as a child, and I've decided that exposure to this book in childhood "hooks" children on horticulture, and that we should ensure that the book is everywhere for all kids as a propaganda, brainwashing device to warp their lives to horticulture! Seriously, it would possibly be a nice Christmas gift.

Favorite Quotes from Recent Reading:

"The kiss of the wind for lumbago,

The stab of the thorn for mirth,

One is nearer to death in a garden

Than anywhere else on earth."

A black humor introduction to a chapter in Green Thoughts - A Winter in the Garden by Eleanor Perenyi on Longevity, explaining that active gardening is so often associated with long life.

"Few people grow passionate about gardening until they have a garden of their own. One can love pictures without owning them or architecture though one lived in a soulless flat, and many devoted music-lovers cannot plat a note. But gardening is a craft as well as a form of artistic expression, an to be truly involved in it one must be a practitioner. Living as a mere spectator in a house with a fine garden is not enough; one must have a share in the designing, choose plant material, handle plants and tools and watch one's labours grow, and only then is one a gardener." From Sissinghurst: The Making of a Garden by Anne Scott James.

From Garden Design by David Hicks (Routledge & Kegan Paul, 199 p.) "Do not be too ambitious when buying and ordering plants. It is easy enough in the winter months, reading the glowing descriptions in the catalogues to think that will be marvelous here, that will be great there; but remember that when it comes to the crunch period of the long, hot summer, and watering has to e done - and endless weeding confronts you - and the whole garden demands attention at the same time - some expensive though delightful things may in fact be wasted. It is pointless to have a garden which means that you are so busy working in it that you never have time to set and enjoy it."

New Plants Received in the NCSU Arboretum (now the JC Raulston Arboretum) May - November 1982.

Galax aphylla Sorbaria sorbifolia var.

stellipila

Gaultheria miqueliana Lycium chinense

Gaultheria nummularioides Syringa reticulata var. mandschurica

Linnaea borealis Stachyurus chinense

Tanakaea radicans Prunus masckii

Vancouveria chrysantha Acer henryi

Vancouveria planipetala Berberis fremonti

Muehlenbeckia axillaris Meliosma myriantha

Flaming Parrot tulip (400) Zanthoxylum schinifolium

Heart's Delight Kaufmanniana tulip (400) Grewia biloba

Carbineer narcissus (200) Acanthopanax setchuenensis

February Gold narcissus (200) Aralia cordata

Pink Pearl hyacinth (50) Phellodendron insulare

Pickwick crocus (100) Helwingia chinensis var. chinensis

Yellow Bird crocus (100) Paeonia potanini trolliodes

Golden Harvest dutch iris (100) Staphylea bumalda

Double snowdrops (100) Rhododendron schlippenbachii

Single snowdrops (100) Cornus macrophylla

Parrotiopsis jacquemontiana Cornus australis

Nothopanax davidii Atropanthe sinensis

Ehretia thyrsiflora Sophora vicifolia

Acer saccharum ssp. floridanum Acer saccharum ssp. leucoderme

Betula uber Bumelia lycopoides

Chamaecyparus henryi Cotinus obovatus

Crataegus spathulata Crataegus viridis

Fagus grandifolia Halesia caroliniana

Halesia parviflora Ilex cumulacola

Magnolia ashei Nyssa ogeche

Quercus incana Quercus leavis

Quercus myrtifolia Quercus olgehtorpensis

Befaria racemosa Borrichia frutescens

Callicarpa americana white fruited Ceanothus americanus

Clethera acuminata Clethra alnifolia var. tomentosa

Cliftonia monophylla Clinopodium coccineum

Clinopodium georgianum Conradina canescens

Conradina glabra 'Low Green' Conradina glabra 'Low Grey'

Conradina glabra 'Low Green' Conradina glabra 'Low Grey'

Conradina verticillata Hamamelis macrophylla

Ilex vomitoria yellow fruited Leiohpyllum buxifolium

Myrica heterophylla Myrica inodora

Neviusia alabamensis Quercus pumila

Rhododendron alabemense, arborescens, austrinum, bakeri, calendulaceum, canescens, coryi, oblongiflorium, serrulatum, speciosum, decorum

Sabal etonia Sabal minor

Serenoa repens Solidago pauciflosculosa

Gelsemium rankinii Smilax pumila

Smilax walteri Wisteria frutescens

Amsonia tabernaemontana Asarum lemonii

Baptisia bracteata Baptisis pendula

Baptisia perfoliata Gentiana saponaria

Gentiana villosa Hexastylis shuttleworthii

Hexastylis grandiflorus Kosteletskya virginica

Liatris aptera Liatris pycnostachya

Lobelia siphilitica Phlox amoena

Phlox glaberrima triflora Phlox pulchra

Phlox stolonifera (blue) Trillium discolor

Trillim lancefolium Waldsteinia parviflora

Zephyranthes atamasco Ceanothus microphylla

Nolina georgiana Nolina microcarpa

Nolina texana Aphananthe aspera

Camptotheca acuminata Koelreuteria integrifoliola

Machilus thunbergi Widdringtonia cedarbergensis

Widdringtonia nodiflora Widdringtonia schwartzii

Callicarpa cathayan Callistemon sieberi

Distylum myricoides Distylum racemosum

Londera erythrocarpa Lindera glauca

Lindera strychnifolia Neolitsea sericea

Osmanthus suavis Pittosporum tobira (Korean strain)

Stewartia gemmata Tetrapanax papyrifera

Zanthoxylum planispinum Zanthoxylum simulans

Asarum europaeum Waldsteinia ternata

Phlox subulata Millstream Jupiter Veronica Heavenly Blue

Calluna Robert Chapman Staphylea holocarpa

Calluna Corbets Red Acer crataegifolium

Calluna Foxy Nana Berberis nervosa

Calluna Martha Herman Malacocarpus critnifolius

Calluna County Wicklow Rosa hemsleyana

Quercus myrtifolia Campanula gargonica

Houstonia caerulea alba Acer aff. stachophyllum

Scabiosa alpina nana Acer tataricum

Phlox stolonifera Blue Ridge Acer erianthum

Phlox stolonifera Bruces' White Robinia neomexicana

Allium beesianum Crataegus wilsonii

Armeria Bee's Ruby Cotoneaster ambigua

Syringa meyeri Helleborus foetissima

Syringa patula Miss Kim Pinus bungeana

Potentilla tridentata Acer palmatum Margaret B.

Potentilla tridentata minima Acer palmatum Sango Kaku

Thymus serphilyllum Little Elfin Cleyera japonica

Saponaria olymoides rubra compacta Phellodendron chinensis

Dianthus Margaret Curtis Azalea Fuki

Spirea bumaldi Normandi Ulmus davidsonii pumila

Leiophyllum buxilofium var. prostratum Arenaria balaerica

Cotoneaster megalocarpa Draba hispanica

Euptelea pleiosperma Lysimachia japonica minutissima

Pteroceltis tatarinowii Bletillia striata alba

Acanthopanax seoulense ARbutus arachnoides

Phlox nivalis - light pink, deep pink, white Chimonanthus yunnanensis

Agapanthus africanus Mood Indigo Daphne genkwa

Agapanthus africanus dwarf white Enkianthus cernulatus rubens

Chamaecyparis pisifera juniperiodes aurea Hamamelis Diane

Tsuga canadensis Cole's Prostrate Nothofagus antartica

Tsuga canadensis Jeddeloh Ilex macropoda

Arabis procumbens Cotoneaster acutifolius

Gypsophila cerastoides Iris notha

Acer cissifolium Evodia daniellii

Cornus controversa variegata Mahonia X Charity

Cornus mas variegata Colchicum agrippinum

Colchicum ciliceum Cyclamen repandum

Crocus medius Colchicum bowlesianum

Iris graberiana Iris bucharia

Iris hoogiana Iris aucheri

Cyclamen hederaefolium Crocus caincellatus var. cilcicus

Phapidophyllum hystrix Sabal minor

Cupressus casmeriana Taiwainia cryptomeriodes

Pachysandra terminalis Green Carpet Forsythia Karl Sax

Ornamental grasses

Andropogon gerardi Bouteloua gracilis

Calamagrostis arundinacea Calamagrostis arundinacea brachytricha

Carex buchananii Carex digitata

Carex glauca Carex firma

Carex montana Carex muskingumensis

Carex ornitopoda variegata Carex plantaginea

Carex 'Old Gold' Deschampsia caespitosa

Deschampsia caespitosa 'Goldgehange' Deschampsia vivipara 'Fairy's Joke'

Elymus giganteus var. glaucus Eragrostis trichodes

Erianthus ravennae Festuca amethstina superba

Festuca capillata Festuca cinerea 'Blausilber'

Festuca vallesiaca glaucescens Hystrix patula

Koeleria argentea Luzula nivea

Miscanthus oligostachys Miscanthus sacchariflorus

Miscanthus sinensis purpurascens 'Herbstfeuer'Miscanthus sinensis 'Silberfeder'

Molina carerulea Molinia caerulea 'Moorhexe'

Moninia caerulea ssp. altissma 'Windspiel' Molinia caerulea ssp. altissma 'Stafa'

Panicum virgatum 'Hanse Herms' Panicum virgatum 'Rotstrahlbusch'

Pennisetum orientele

Prunus mume - Goshiki Ume, Kasugano, Omoi no Mama, Suzuka no Seki, Taihai, Tobai, Tojibai, Toyade no Nishiki

Kalmia latifolia - Goodrich, Nipmuch, Pink Charm, Pink Frost, Shooting Star.

Camellia - Ann McCulloch Hill, October Affair, Adeyaka, Dot Spengler, D. Ralph Watkins, Lavender Prince II, Monah Hohnstone.

Magnolia macrophylla, macrophylla Whopper, cylcindrica, kobus borealis, tripetela, Ann, virginiana (large flowered), campbelli, Rapsberry Ice, graneiflora Nannetensis, grandiflora Little Gem, hypoleuca, loebneri Ballerina, salicifolia Miss Jack, Pinkie, soulangeana puprleana, liliflora, stellata Waterlily, Elizabeth, thompsoniana, watsoni, wilsoni.

Lagerstroemia indica - Bourbon Street, Delta Blush, Snowlace, Lafayette, New Orleans, Baton Rougge, Bayou Marie, BAsham's Party pink.

Iris (Louisiana) - Bayou Candelabra, Bit of Blue, C;est Magnifique, Ch. Tress, Dr. Dorman, C. Cosgrove, Equality, Gentry, Urbane.

Peonies - Armistice, Better Times, Big Ben, Casablanca, Deer Creek, Elizabeth Price, Festiva Maxima, Gardenia, Glowing Candles, Guidon, Hansina Brand, Henry Bockston, Kan Ka Kee, Kas Kas Kia, Krinkled White, Mons. Jules Elie, Moon of Nippon, Nick Shaylor, Raspberry Sundae, Requiem, Sister Margaret, and Sword Dance.

Forsythia X intermedia Lynwood

Amelanchier oblongifolia

Trachycarpus martianus

The list totals roughly 360 new accessions of species or cultivars added to the arboretum collections from May through November 1982. With the January-May list and those plants that will be added in December, the total number of new plants added in 1982 will be around 900. Sadly, the fatalities will have to be subtracted (yes, just like in you garden we too have our losses) but the additions will still represent a significant growth in 1982 - in fact, far beyond expectations.