

HOLLY SOCIETY OF AMERICA, INC.

PROCEEDINGS OF THE 47th MEETING

Editor: Dr. Elwin R. Orton, Jr., College of Agriculture and Environmental Science

Rutgers-The State University, New Brunswick, New Jersey 08903

Hotel DuPont, Wilmington, Delaware and Longwood Gardens, Kennett Square, Pennsylvania

November 3, 4, 5, and 6, 1970

The Hotel DuPont, Wilmington, Delaware and the modern facilities of Longwood Gardens at Kennett Square, Pennsylvania served as dual headquarters for the 47th meeting of the Holly Society of America, Inc. This was the first meeting of the society to span a four-day period; members and guests in attendance ranged from Massachusetts to North Carolina and westward to Ohio and Indiana.

President Daniel G. Fenton extended a cordial welcome to members in attendance and expressed the appreciation of the society to the committee in charge of local arrangements for their efforts which made possible such a fine program of speakers and tours. This committee consisted of James Frorer, Robert MacDonald, Ronald Timmons, Bluett Green, Rod Derickson, E. C. Waddington, and Charles Dunham, Chairman.

Guided tours of Longwood Gardens and the John J. Tyler Arboretum were directed by Dr. Donald Huttleson of the Longwood staff and Mr. Robert MacDonald, Director of Tyler Arboretum.

A highlight of the meeting was the announcement by President Fenton that the 1970 issue of the *Handbook of Hollies*, edited by Mrs. Dorothy E. Hansell of 25 Ames Road, Morristown, New Jersey, has been printed and is ready for distribution. The *Handbook of Hollies* is available from Mr. Bluett C. Green, Jr., Secretary-Treasurer, Holly Society of America, Inc., Post Office Box 8445, Baltimore, Maryland 21234. The following price schedule has been established: 1-9 copies at \$5.00 each + 50 ¢ postage per copy; 10-20 copies at \$4.00 each plus packaging and shipping; 21 copies or more at \$3.00 each plus packaging and shipping. Buyers purchasing copies at a reduced price for resale must agree to sell copies at the single-copy price of \$5.00, plus 50 ¢ postage if mailed.

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- Mr. & Mrs. Rudolph Aeberle
East New Market, Md.
- Mrs. F. Morse Archer
Moorestown, N. J.
- Mr. Tom Barbour
Chatham, N. J.
- Mr. & Mrs. Barton M. Bauers, Sr.
Berlin, N. J.
- Mr. & Mrs. William C. Baumann
Bernardsville, N. J.
- Dr. R. P. Bissonnette
Evansville, Ind.
- Mr. & Mrs. Paul R. Bosley
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- Mr. & Mrs. Samuel R. Bucknell
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Cockeysville, Md.
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- Mr. & Mrs. Sidney V. Burns
Syosset, Long Island, N.Y.
- Dr. F. H. Burr
Greencastle, Pa.
- Mr. & Mrs. H. W. Cecil
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- Gerry Coleman
Coshocton, Ohio
- Mr. Richard G. Coleman
Coshocton, Ohio
- Dr. S. O. Curry
Camp Hill, Pa.
- Mrs. Tom A. Darr
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- Mr. Harry W. Dengler
College Park, Md.
- Mr. William J. Dennis
York, Pa.
- Dr. & Mrs. Oliver D. Diller
Wooster, Ohio
- Mr. Ralph L. Dodge
Cecilton, Md.
- Dr. Charles W. Dunham
Newark, Del.
- Mr. & Mrs. J. Richard Dyer
Doylestown, Pa.
- Mr. & Mrs. Fred Ebersole
Pinehurst, N.C.
- Mr. Gene Eisenbeiss
Hyattsville, Md.
- Mrs. Margaret Evering
Baltimore, Md.
- Mrs. W. Brooks Evert
Medford Lakes, N. J.
- Mr. & Mrs. Daniel G. Fenton
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- Mr. J. R. Frorer
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- Mr. Dennis Gallagher
Vineland, N. J.
- Mr. & Mrs. Charles A. Glover
Upper Montclair, N. J.
- Mr. & Mrs. Anthony R. Gould
Bethesda, Md.
- Mr. & Mrs. Bluett C. Green, Jr.
Baltimore, Md.
- Mr. & Mrs. John H. Gruver
Simons Island, Ga.
- Mr. & Mrs. George M. Haak
Monkton, Md.
- Mrs. Dorothy E. Hansell
Morristown, N. J.
- Mr. & Mrs. J. Bon Hartline
Anna, Ill.
- Mrs. Grace Hawk
Wellesley, Mass.
- Mrs. Julian W. Hill
Wilmington, Del.
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West Grove, Pa.
- Mr. Shelby H. Jarman
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- Mr. & Mrs. Sidney J. Kincer
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- Mr. Henry A. Krieg
Newark, N. J.
- Mr. & Mrs. Larry F. Livingston
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- Mr. & Mrs. Nicholas Lobmeyer
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- Mr. & Mrs. F. R. Lockhart
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- Mr. E. R. Manners
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- Mr. & Mrs. Charles A. Meyer
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- Mr. & Mrs. Paul K. Reiniger
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- Mr. Henry W. Ridgeway
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- Mrs. Edith N. Rieder
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Westminster, Md.
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- Mrs. Frank Stokes
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- Mr. & Mrs. Merritt I. Taylor
Richmond, Va.
- Mrs. H. R. Timms
Wallingford, Pa.
- Mrs. James N. Tomb
Harrisburg, Pa.
- Mr. Carl Totemier
Oyster Bay, N. Y.
- Mr. Robert Tytus
Oyster Bay, N. Y.
- Mr. & Mrs. Pat Vaccaro
Rosedale, N. Y.
- Mr. & Mrs. G. A. Van Lennep, Jr.
St. Michaels, Md.
- Mr. Edward C. Waddington
West Grove, Pa.
- Mr. Gordon Wilbur
Churchville, Pa.
- Mrs. Louise P. Wilson
East Falmouth, Mass.
- Mr. & Mrs. W. T. Wilson
Bladensburg, Md.
- Dr. & Mrs. John C. Wister
Swarthmore, Pa.
- Mr. Richard Wyman
Framingham, Mass.
- Mr. Charles A. Young
Baltimore, Md.

DOROTHY EBEL HANSELL AWARDED
CERTIFICATE OF MERIT – LIFE MEMBERSHIP



Dorothy Ebel Hansell

Dorothy Ebel Hansell received the coveted Certificate of Merit of the Holly Society of America as well as Honorary Life Membership in the society, at the annual Holly Banquet. Presentation of this award was made by society president, Daniel G. Fenton. Mrs. Hansell was cited for her superb accomplishments as Editor of the 1970 *Handbook of Hollies*, publication of which was undertaken as a cooperative venture of the Holly Society of America and the American Horticultural Society.

When the Trustees of the Holly Society requested Mrs. Hansell to serve as Editor of this handbook, she responded affirmatively and enthusiastically. Her dedication to this effort continued throughout the eighteen or more months that she contributed to this effort. Despite many unforeseen difficulties, the *Handbook of Hollies* went to press on schedule. An authoritative document of value to both professional and amateur horticulturists, the *Handbook of Hollies* will be of tremendous promotional value to ornamental horticulture in general, as well as to holly culture in particular. The *Handbook of Hollies* (1970) reflects creditably the professional efforts of its volunteer editor, Dorothy Ebel Hansell.

Following presentation of the Certificate of Merit and Life Membership awards, Mr. Larry F. Livingston, Past-President of the Holly Society of America, presented Mrs. Hansell with a beautiful hand-crafted pin. Mr. Livingston stated, "Dorothy Hansell, you have just received the highest honor which our society can present. The Board felt that you have put so much of yourself into this effort that they wanted you to also have something personal, tangible, enduring and unique.

So, Lawrence Scharnagle - Artist, Sculptor, and custom Jeweler of Wilmington, Delaware - is designing and making for you a token which will be all of those things. It will be strictly your own; you can touch it and you can wear it. It will last forever. There is nothing else like it and it will, we hope, always remind you of the gratitude and affection of the Holly Society of America."

The method by which Mrs. Hansell's pin was made is of interest. Molds were cast from actual leaves of *Ilex opaca* 'Menantico', and molten gold poured into them.

The following inscription is engraved on the back bar of the pin:

Dorothy Ebel Hansell
In Appreciation
Holly Society of America



USING HOLLY IN FLOWER ARRANGEMENTS

Mrs. Charles W. Dunham

While the Board of Trustees was in session, a group of 35 to 40 assembled in the Georgian Room for a most interesting and informative discussion on holly arrangements.

Mrs. Dunham stressed the fact that hollies can be used in flower arrangements at all seasons of the year. Among the hollies she has found to be particularly useful in conjunction with flowers, Mrs. Dunham listed clones of *I. aquifolium*, *I. opaca*, *I. crenata*, *I. x aquipernyi* and *I. x attenuata*.

Stressing the Japanese 3-point style (Earth-Man-Sky) of flower arranging, Mrs. Dunham prepared numerous arrangements utilizing a wide variety of standard vases. Mrs. Dunham cautioned her audience that the vase used in a flower arrangement should not dominate, or compete with, the plant material. Mrs. Dunham shared many helpful hints with her audience and concluded her demonstration by making a corsage that included a sprig of holly.

BREEDING NEW CULTIVARS OF HOLLY (A PROGRESS REPORT)

Dr. Elwin R. Orton, Jr.
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The development of new and superior cultivars of holly is the primary goal of the holly breeding program at Rutgers University. The value of genetically superior clones of known performance is immediately apparent when one considers that the time and effort required to propagate and grow a beautiful mature specimen plant of a superior genotype is generally less than that required to propagate and grow a mature, but unattractive, plant of an inferior genotype. Regardless of the degree of horticultural skill one brings to an attempt to grow a vigorous holly of beauty, the odds are greatly in favor of the individual who starts with propagation material of a superior genotype. Tender, loving care is a poor substitute, and will never overcome the deficiencies of a plant of an inferior genotype.

Hollies are either male or female; hence, cross-pollination is the rule in nature. As a result, the genetic variability available to the plant breeder is tremendous. Accordingly, the potential for achieving success in a program of holly hybridization is high.

A performance trials of some 200 different cultivars and numbered selections of *Ilex opaca* served as the starting point of breeding work with plants of this species at Rutgers University. Plants of some 40

different clones have been used in a total of 150 different parental matings and approximately 40,000 seedlings resulting from these controlled crosses are now in various stages of evaluation.

Seedling fields are repeatedly evaluated in order to select those plants possessing a favorable combination of desired horticultural characteristics. The goal of this work is to produce new cultivars that exhibit reliable winter hardiness, high vigor, a dense self-compacting habit of growth, and dark green, glossy leaves that persist on the plant for at least 2 years. In the case of female cultivars, an annual set of bright, glossy fruit that are well displayed along the branches is essential.

Twelve different seedling selections approximately 12 feet in height have been propagated for further testing at additional sites prior to final selection and possible release as new cultivars. The original plant of each selection has been transplanted to the performance trials as a future source of cuttings.

Interspecific hybridization of American Holly (*I. opaca*) with English Holly (*I. aquifolium*) is in progress in an attempt to obtain hybrids exhibiting foliage and fruiting characteristics equal to that of the better selections of English holly and possessing a degree of winter hardiness equal to that of the hardiest selections of American holly.

Breeding work with plants of *Ilex crenata* has also been undertaken on a large scale. Here again, the first step was to develop an extensive performance trials. Five plants each of approximately 120 different cultivars are represented in this trial. One of the first controlled matings within the species was a cross of *I. c.* 'Convexa' x *I. c.* 'Stokes'. Intensive evaluation of nearly 100 seedlings selected from an initial population of 21,000 seedlings obtained from this mating is now underway and it is expected that several of these selections will be formally introduced to the commercial trade as new cultivars. Evaluation of the plants in this large population of seedlings has been directed toward the selection of winter-hardy plants of a semi-dwarf, self-compacting habit that possess mite resistance and exhibit glossy green foliage throughout the year.

Another intraspecific mating of interest is that of *I. c.* 'Mariesii' x *I. c.* 'John Nosal'. Two dwarf selections from an initial population of 800 seedlings that germinated in February, 1966 have been selected for introduction under the cultivar names *Ilex crenata* 'Dwarf Pagoda' and 'Green Dragon'. Although fertilized every 3 weeks throughout the 1969 and 1970 growing seasons with a 24-12-12 liquid fertilizer, these 5-year old seedlings are less than 14" tall. These plants are reliably winter hardy, have minute, dark green leaves, and are unique in form and branching habit. They are being introduced as specialty items for use in rock gardens, Japanese gardens, planter boxes and for use as bonzai material.

Plants of several red-fruited species, including *I. suqeroki* and *I. yunnanensis*, have been hybridized successfully in the first phase of a project designed to transfer genes conditioning red fruit into plants of *I. crenata* habit. Selection and additional hybridization will be required to achieve this goal.

Intraspecific hybridization to develop superior clones of our native inkberry, *Ilex glabra*, has been initiated. Historically, very little attention has been paid to plants of this species. The inherent genetic variability present within the species is tremendous so the outlook for developing improved cultivars is very good. Low-growing forms exhibiting a dense self-compacting habit with foliage that remains glossy green throughout the winter months are being sought. Most of the plants of this species that are commercially available are too open in habit and exhibit foliage that develops a purplish discoloration with the onset of winter. As with *I. crenata*, interspecific hybridization of *I. glabra* with various red-fruited species has been initiated as a means of incorporating genes conditioning red fruit into hybrid plants of *I. glabra* type.

The deciduous species, *I. verticillata*, *I. serrata*, and *I. decidua*, represent another group of hollies currently receiving attention in the breeding program. Until very recently, plants of these species have been neglected by nurserymen or others interested in the selection of improved forms. Two hybrids resulting from interspecific hybridization have recently been introduced under the cultivar names *I. serrata* x *I. verticillata* 'Harvest Red' and 'Autumn Glow', *Ilex decidua* is now being used extensively in interspecific hybridization. Plants of *I. decidua* characteristically retain fruit of good color much longer than plants of *I. verticillata* or *I. serrata*. Fruit borne on plants of these latter two species generally lose their attractiveness by Christmastime.

Other species currently being utilized extensively in interspecific hybridization are *I. cassine*, *I. cornuta*, *I. georgei*, *I. intricata*, *I. melanotricha*, *I. myrtifolia*, *I. pernyi*, *I. rugosa*, and *I. vomitoria*. Much of this work has progressed to the second generation of hybridization and thousands of seedlings are being grown on for evaluation.

Any discussion of the holly breeding program at Rutgers University - The State University of New Jersey would be incomplete without mention of the role the Holly Society of America has played in the development of this program. The holly breeding program at Rutgers University was initially financed with a grant of \$15,000.00 from the New Jersey Silica Sand Company of Millville, New Jersey. This grant prompted the New Jersey Agricultural Experiment Station to establish a position for a professional plant breeder to take charge of the breeding program. As the program progressed, a grant of \$2,500.00 from the Holly Research Fund of the Holly Society of America made

possible the purchase of a plastic greenhouse 26' by 120' for overwintering young seedlings. These funds were matched by Rutgers University and a second overwintering structure was erected for use in the breeding program. Heating units purchased by the University were installed in both of these houses the following year. These two overwintering structures plus a 80' x 120' lath house complete with overhead irrigation, and a \$175,000 office, laboratory, and service building with a 35' x 90' greenhouse constitute the facilities now available to the holly breeding program. Through its efforts in promoting hollies in general, and through financial support from its Holly Research Fund, the Holly Society of America has truly been a major stimulus to the development of the extensive holly research program at Rutgers University.

FERTILIZER PRACTICES FOR AMERICAN HOLLY

C.W. Dunham,¹ and G.B. Abrams²

Fertilization practices for American holly were studied over a three-year period (1966-1969) at the University of Delaware Substation at Georgetown, Delaware. The trees employed in the experiment were of the cultivar 'Miss Helen', and were planted in 1962. Treatments were designed to compare the response of the hollies to different kinds of fertilizers, rates, times and methods of placement. Response was determined by measuring the increase in tree diameter, analysis of leaf tissue and visual evaluation of leaf color and appearance.

Treatments

Fertilizers used were: a 10-10-10 granular, Uramite (a slow release form of urea formaldehyde containing 38% nitrogen), ammonium nitrate (33% nitrogen), and cottonseed meal (6% nitrogen). Fertilizers were applied by three methods: Broadcast, evenly spread under the trees in an area of 25 sq. ft.; banded, spread in a circle around the tree at the drip line; punched holes, equally divided in 8 holes each 6"-8" deep and spaced in two concentric circles under the trees.

Spring treatments were applied in early April, and fall treatments in November.

Leaf samples were collected in June and analyzed for nitrogen and phosphorus; and in October and analyzed for potassium.

¹ Associate Professor, Department of Plant Science, University of Delaware

² Horticulturist, Department of Horticulture, Purdue University

Results

Source of Nitrogen:

The results of the use of various nitrogen fertilizers are shown in Table 1. The trees in this study were increasing in diameter at approximately one half inch per year. There did not appear to be any significant relationship between fertilizer applied and trunk diameter increases. Trunk diameter increase is the end result of a complex of factors, fertilizer additions being only one and apparently not the most important one in this experiment.

The nitrogen content of the holly leaves was related to the rate and availability of the nitrogen applied. All of the fertilized trees contained more nitrogen in their leaves than the unfertilized control, and the content increased when increased amounts of nitrogen were applied. The availability of nitrogen from cottonseed meal appeared quite similar to that from 10-10-10. The availability of nitrogen in Uramite was, as would have been expected, less than from the other fertilizers.

The higher rates of nitrogen did appear to improve leaf color. Leaf color, like trunk diameter, was influenced by a number of factors, the size of the fruit crop being one of the more important. Uramite appeared to be especially effective in maintaining leaf color.

Rates and Methods of Placement:

The results of the three different methods of fertilizer placement as measured by the leaf content of nitrogen, phosphorus and potassium, are given in Table 2. All three methods of fertilizer application resulted in an increase in leaf nutrient content compared to the unfertilized trees. In comparing the three methods, banding the fertilizer at the drip line appeared to result in the highest nutrient content and this might be regarded as the most efficient method.

Time of Application

The comparison of spring and fall fertilizer applications appear in Table 3. All resulted in increased nutrient content of the leaves compared to the unfertilized trees. There was a greater recovery of nitrogen and phosphorus from the spring than the fall applications. The evidence was less conclusive in the case of potassium where fall applications appeared similar to spring.

Recommendations

Based upon an interpretation of the results of this study and another in which higher rates were employed, the following recommendations are given for fertilizing American holly.

The fertilizer may be either mineral or organic. However, the rate should be determined by the available nitrogen. Trees between one and three inches in diameter should receive 1 - 3 ounces of nitrogen for

each inch of diameter annually. This would correspond approximately to 1 to 2 pounds of a 10% nitrogen fertilizer for each inch of diameter. Where slow-release nitrogen such as Uramite is employed, the rate may be doubled. The fertilizer may be applied in holes 6-12" deep, broadcast under the branches or spread in a circle at the drip line. The latter method proved most efficient; however, spreading half broadcast and half in a circle at the drip line should prove very effective.

There was no apparent response of the hollies to additions of potassium and phosphorus fertilizers. However, it would be best to use a fertilizer which contained some phosphorus and potassium until the effects of straight nitrogen fertilizers have been observed for a longer time.

The fertilizer is best applied in early spring (March or early April) since the hollies recover a higher percentage of the nutrients applied at this time.

Table 1. The effect of various nitrogen fertilizers on the increase in trunk diameter, leaf nitrogen, and leaf color of American holly.

Fertilizer	Lb. N per tree	Increase in Dia.	% N in Leaves	Leaf* Color	Fruit* Set
None	0	.485	1.57	3.25	3.00
10-10-10	.05	.450	1.70	3.25	4.00
Cotton seed meal	.06	.480	1.77	3.50	2.50
10-10-10	.10	.458	1.87	3.25	3.50
Ammonium Nitrate	.12	.520	2.04	3.75	4.00
Uramite	.28	.508	1.80	4.00	3.75
L.S.D.	.05	.093	0.16	0.77	1.32

*Visually rated on a relative scale of 1-5 with 5 being darkest green color and heaviest fruit set.

Table 2. The effect of three methods of placement of 10-10-10 fertilizer on the leaf content of nitrogen, potassium and phosphorus.

Placement	Lb. per tree	% of dry weight in the leaves		
		N	K	P
Broadcast	0.5	1.70	.66	.12
Broadcast	1.0	1.87	.71	.13
Holes	0.5	1.77	.70	.11
Holes	1.0	1.81	.74	.12
Banded at drip line	0.5	1.78	.69	.13
Banded at drip line	1.0	1.92	.76	.14
None	0	1.57	.60	.12
L.S.D.	.05	.16	.14	N.S.

Table 3. The effect of spring and fall applications of 10-10-10 fertilizer on the leaf content of nitrogen, potassium, and phosphorus.

Time Applied	Lbs. per tree	% in leaves		
		N	K	P
Spring	1.0	1.87	.71	.13
Fall	1.0	1.74	.79	.12
Both Spring & Fall	.5	1.80	.80	.13
None	0	1.57	.60	.12
L.S.D. .05		.16	.14	N.S.

THE DECIDUOUS HOLLIES

J. Bon Hartline
Hartline's Holly Nursery
Anna, Illinois

The evergreen hollies have been like the "three beautiful sisters" while the deciduous ones are similar to "Cinderella". As did Cinderella, the deciduous types are going to blossom out and take their rightful place in the holly landscape.

The number of deciduous holly native to North America is not large. *The Handbook of Hollies* (1957) lists seven species (with several sub-species) and from this group, almost any state can grow at least one of these.

The deciduous hollies are usually red-fruited but occasionally yellow-fruited ones have been found.

A short description of some of the deciduous species follows:

Ilex verticillata, also called Black Alder or Winterberry, is a large shrub and has been found to be 20 feet or more, usually 10 to 20 feet, tall. It forms a wide spreading plant with red berries in clusters. It is hardy in U.S.D.A. Hardiness Zone 3 and is found from Nova Scotia westward to Wisconsin and Missouri and on southward through the southern states. Plants of this species will grow in wet, swampy or well-drained soils.

The big disadvantage of this holly is the fact that the leaves are rather ugly after a frost; similarly the beautiful berries will turn dark or black after a severe freeze.

Ilex laevigata, or Smooth Winterberry is a smaller plant reaching about 10 feet in height and is found in a smaller geographical area (Maine to Georgia). The fruit (red to orange) stay in a more pleasing condition for a longer time than do those of *I. verticillata*, and the leaves have a pleasant yellow cast in the fall. The plants are hardy in Zone 5.

Ilex curtissi is similar to *I. decidua* and is generally found in Florida. If this plant were grown very far to the North, the berries would surely turn black.

Ilex longipes, or Georgia holly, is better known since it has a range from the Carolinas westward through Tennessee to Louisiana and southward. The plant grows to 20 feet with wide spreading branches and bears red fruit on a short 3/4" stalk. This is a good holly and deserves to be more widely grown.

Ilex montana, or Mountain holly, is the largest of the deciduous hollies, growing to 35 feet. It has bright red fruit that color early in the season while the leaves are still green. *I. montana* can be found from New York southward. It is often confused with *I. decidua* but has fewer fruits.

Ilex buswelli, also called Possumberry, is rather small (10 ft.) and grows in southern Florida. This species is not very well known and would not do well much farther north.

Ilex ambigua is a large shrub found from the Carolinas southward through the eastern states and west to Arkansas and Texas. The red fruit color early but will not hold throughout the winter.

Ilex amelanchar is another of the lesser known species that grows in a rather restricted area - South Carolina and Georgia. The fruit are red and are borne 3 to a peduncle.

The best of the deciduous species, in my opinion, is *Ilex decidua*. It is also known as Possumhaw holly - a rather large shrub growing to 20 ft. or more with a wide spreading oval outline. The leaves are about 2" long and vary from dull to rather bright glossy green. *I. decidua* has a wide geographical range - from Virginia westward through Tennessee, Indiana, Illinois, Missouri, south to Texas and through the southern states.

Plants of *I. decidua* will grow on a wide range of soil types. They are found in wet bottom lands, on upland dry hillsides, in rocky outcroppings of limestone or on highly acid soils. The fruit color varies on seedling plants from an unsightly pale orange to bright reds. A plant with a bright yellow berry is known to exist in Alabama. The fruit is borne singly but mostly on short spurs that give the appearance of clusters of 6 or more berries on one stem.

Seedlings of *I. decidua* vary considerably in retention of a pleasing berry color throughout the winter. For several years, I have been watching for plants having desirable characteristics of berry color and fruit retention. This hunting is best done early to find those plants having good berry color, size and crop, then again in late winter to check on winter damage. Therefore, final selection should be made later.

Most plants of this species propagate readily from early softwood cuttings and also hardwood cuttings taken about the time of the first frost. Bottom heat is needed.

Seedlings of *Ilex decidua* are very slow to produce berries. Since each plant is either male or female, they

can be quite a large plant before the sex is known. It is desirable, therefore, to grow plants from cuttings from previously selected desirable plants as these rooted cuttings bear from the first year.

There has been practically no selection and naming among the deciduous hollies as compared to the evergreen ones. I am growing cuttings from about 20 plants of *I. decidua* and have narrowed this list down to 3-4 of the best.

Another deciduous holly that is widely grown in, but not native to, the United States is *Ilex serrata*, also known as the Fine Toothed or Japanese Winterberry. It grows 4 - 8 ft. high, branches easily at the base, and has small (about 1/8") red fruit. This is a very nice plant for a limited space. Hardy in Zone 5.

Editor's note: Mr. Hartline presented a series of 2 x 2 colored slides illustrating the desirable characteristics of I. decidua, I. verticillata, and I. serrata.

A CALENDAR FOR HOLLY CULTURE

Mr. David Patterson
Longwood Gardens

Hollies are not particularly difficult to grow if given reasonable locations and reasonable cultural care - we really don't do much with them. Right at this time of the year, the main thing going on with holly as far as we're concerned is propagation, and we do all the propagation by cuttings. We usually take *Ilex cornuta* and others that we feel might be subject to winter injury earlier, and leave the other ones till later in the season. We find that we can root them at least into February and on occasion we have stuck some cuttings as late as St. Patrick's Day and have had pretty good results. All the propagation is done under mist and the mist is operated by a time clock. I'm sure you're all familiar with large cuttings and we find about the only limits to the size of cuttings you can root are the availability of cutting wood and the space you have in your propagating area. In other words, it's pretty much a matter of how much you want to cut your plant. This applies to *Ilex opaca* particularly.

A few years ago we had some rather large plants of *I. crenata* 'Helleri' and we were doing some pruning on them. I cut half a dozen pretty good size branches and took them into the propagating house where the fellows were sticking the cuttings, and they were putting in pretty good size 'Helleri' cuttings. I guess I felt in a show-off mood, so I picked up three or four of these stumps with just a little sprig of foliage on top - actually the stem of the so-called cutting was thicker than my thumb and all scarred where they had been pulling off cuttings and I dipped them in 2% IBA and stuck them in the propagating bench. One of the young fellows working there said "You know I've been thinking for a while that you're a little bit crazy,

and now I know it." But anyhow, within six or seven weeks - and I'm sure these things were dug up at least once a week because everybody was checking on me - we had plants, or rooted cuttings, that were big enough to go into gallon cans. The hormone treatment that we use for things like *I. cornuta*, and *I. opaca* is Hormodin No. 3. When we get into the large cuttings we use 2% IBA. Our standard rooting media for all the hollies that we grow is 50% peat - that's the horticultural grade (baled peat) and 50% horticultural grade perlite. We use that for almost all of our holly cuttings. After they're rooted, we pot them into peat pots - the smaller cuttings go into 2 1/4" peat pots and some of the larger cuttings go into 3" peat pots. The really big cuttings - and some cuttings of *I. opaca* have three-year old wood on them - go directly into one or two-gallon containers. Right now we are getting ready to dig a few hollies for Xmas display in the greenhouses in the conservatories. This is probably not applicable to many of you here, but it is one of the things we do. Also, December is when we do most of our pruning on *I. opaca* and *I. aquifolium*. We probably do it for the same reason that a lot of you folks do, we use the prunings as Christmas greens. We do a lot of decorating at Christmas; we buy a lot of wreaths made in North Carolina as we'd be in danger of chopping down our aboretum if we collected all the evergreens at Longwood.

I'm sure we don't use all our prunings for Xmas greens, but we use a pretty good percentage of them to make holly sprigs and so forth. Also, at that time we spray a few of our hollies - some of the *I. aquifolium* and a few *I. opaca* - with an anti-desiccant and some times I wonder why we do it. If we have a moderately severe winter, my experience has been that the anti-desiccants do some good. But, if we have a severe winter, the difference seems to disappear. Throughout the winter, up until March or so, we check for scale insects and, if there happen to be any, we spray with a dormant oil. So far we have not had any scale problems. In April and May we fertilize. We usually use Holly-Tone and we try to get around to all our plants at least once every two years - some oftener. On some of the *I. crenata* that we use in hedges we would use something like 10-6-4, just ordinary turf fertilizer. In April and May, we also try to do most of the transplanting that has to be done. We also transplant in the fall but try to get it done fairly early. We moved a pretty good sized *I. aquifolium* just about a year ago into a rather sheltered location and it did very well. All our holly plants are dug balled and burlapped. We incorporate humus into the soil, usually peat moss, and we probably put in at least 1/4 peat moss by volume to 3/4 backfill soil. Then the plants are watered in and mulched with 2" of spent licorice root which probably settles down to an inch and a half. We are also mulching some of our older plantings. We try to transplant from our nursery beds to the field in April. Most of our nursery is not

irrigated and we found that if we can get them moved in April we gain about a year's growth. The small plants that I described previously (in other words, those that are being carried on in the greenhouse or the coldframe) are planted out in beds in May or June. The smaller growing ones are planted with 8" spacing each way and the larger growing ones such as *I. opaca* are spaced 12 inches. Ordinarily they stay in the beds for 2 years before being transplanted to the field. Toward the end of May we start checking real closely for leaf miner, and usually about the third week in May we spray with Dimethoate, in other words, Cygon 2E, and we just spray them. If we hit it right, we just have to spray them that one time in the spring - in other words, we don't spray again a week to 10 days later as is sometimes recommended. We haven't had to as yet, but we keep checking and if we have to, we will. During the summer we water our new plantings too, but not ordinarily. We keep checking and spraying for various spider mites as necessary - this is particularly true of some of the clones of *I. crenata*. *I. crenata* 'Convexa', as you all know, is particularly susceptible to that particular insect. We use Kelthane as our basic miticide. We'll switch off to Ovex once in a while in case we might be running into a resistant strain. During the summer, we prune the hollies like *I. crenata* - if you get a chance to look at our plantings, you'll see that we have quite a few hedges and hedge-type plantings. In late August and early September we start checking again and looking for signs of leaf miner punctures and if they are present, we spray with Cygon 2E. This has been a brief summary but I've covered all we do with holly.

Question: Do you spray before or after the bloom to control leaf miner?

Answer: We spray about the 3rd week in May - that would be before the period of bloom.

Question: Does it kill the bees?

Answer: Yes, sir, it will kill the bees. If you spray at the time that the bees are around the flowers, the bees will be killed. We found an interesting thing on some of our other plants. Quite a few years ago we started painting Cygon 2E on the trunks of some of our trees that were particularly susceptible to aphids - for example, our Linden trees. While showing some people from England around our plantings, we were talking about this because one of the men asked why we did not have any aphids on our Lime trees, as he called them. He took this information back to England and in a few months I got a letter from an entomologist at the particular institution where this gentlemen worked. The question was raised concerning what this would do to the bees because the Lindens are a prime source of honey there. I checked with the man at Penn State who had done some of the original work on this insecticide and he said that if you use Cygon 2E as a spray while the bees are flying, you'd kill them. However, if you apply the material to the

trunk, it moves through the plant systemically and apparently doesn't get into the nectar. They had done work on this and found that such applications did kill the bees.

Question: If you spray Cygon 2E before the blossoms open, will it still kill the bees?

Answer: There probably wouldn't be many bees in the area if the flowers are not open. Any bees that are hit by the spray will be killed.

GIVING A TALK ABOUT HOLLIES

Anthony R. Gould
Bethesda, Md.

One of the objectives of the Holly Society is to popularize hollies -- as many kinds of hollies as possible for as many situations as possible.

Holly will probably never be as popular as azaleas, or rhododendrons, or roses, but they deserve to be grown much more than they are. Some are ideal for foundation planting, others for screens and boundary markings and many as specimen trees.

I don't have to relate the virtues of holly to this group for you are already dedicated hobbyists. But it is easy to overlook the obvious so I will quickly point out why more gardens should contain hollies.

Most hollies are evergreen -- a deep rich green all year long. This is especially important in the winter when so many other plants are bare. From November to April the hollies have bright red berries that stand out from the dark green in heart-warming contrast. I can't think of another plant with such a long season. And last, to simplify our statement, there is great satisfaction in cutting your very own holly for your own decorations at Christmas. As your trees grow you can spare holly twigs for your sons and daughters, brothers and sisters, and give some to that friend who has everything but who you'd like to remember. For years I have done just that and received the most gracious notes in return.

Why don't more people grow holly? It is probably because they think it is a difficult plant, that there is something tricky about growing holly in their own garden. Actually holly is as easy to grow as pansies or azaleas and far easier than chrysanthemums or roses.

Most people, also, are unaware of the many kinds, shapes and sizes that are available and the many situations in which they can be used.

Articles in magazines can go a long way to showing the varieties available and the many situations in which they can be used in landscaping the home grounds, but do not overcome the fear of difficult culture. We need more education.

Features in newspaper supplements begin to overcome the fear because of locality and often they can illustrate uses frequently in public places such as parks and around public buildings. We also need this kind of publicity. But there is nothing equal to talking with someone in the area who is now growing holly successfully. Nurserymen, if those present will excuse me, are suspected of trying to sell plants. The ideal speaker for a garden club is an amateur who makes mistakes and admits it. If word passes, "You should see the black spot on his roses" -- you are guaranteed some sympathizers.

I hope I have half convinced our holly hobbyists that they have something to contribute to the popularity of holly. You are getting in on the ground floor of a coming plant. Twenty-two years ago when I was given my first holly, 'Burfordii' was the only holly that could be found in the nearby nurseries. And it was only 18 inches high! Now most nurseries have several species, garden centers are loaded, landscape architects recommend them, and you are the amateur other gardeners can turn to for advice because you are already successful.

But you say, "I don't know what to say or what to do if I'm asked to talk to a garden club!"

What do you say and do if someone phones and asks if he could bring his wife to see your hollies? Just what I have done time and time again. Talk and visit, point out male and female, leaf miner and what to do, show varieties and how they differ. My wife used to say, "Why did you let them take up so much time?" My stock answer, "It hurts my feelings to show off my hollies!" You know how it is.

On leaving your guest will probably say something like this, "This is tremendous. I didn't know hollies grow in so many kinds and so many sizes and shapes. All I've seen are the branches in stores at Christmas-time for which they charge so much. If you'd be willing to come to our garden club sometime, I'll speak to our president. We can't all come here in cold weather but you can bring some of your garden to us where it is warm inside."

Certainly it would be better to visit your garden, but the next best thing is to take your garden to them, where you have a captive audience. Speaking before a garden club with samples from my garden is even more satisfying because I'm showing off my hollies to 15, 20, 25 people at one time.

There are 2 main points to make. These will evolve naturally from what you say and do.

1. Hollies grow in our soil and climate. After all, the species I will pass around are from my garden (or from a neighbor). Nothing can be as convincing as letting your audience examine and handle twigs that you yourself have grown.

2. There are many varieties of holly and they fit into many situations. Again your specimens need to

show variety -- not just different species that are used locally. In the Washington, D.C. area this will include *cornutas* and *crenatas* which are now being widely used.

You are showing people actual twigs which they can feel, know how big the leaves are, what the berries are like. You give them an opportunity to make notes which is well-nigh impossible during a slide presentation. We want them to think of the many kinds of holly readily available.

Because these twigs are grown locally you are establishing their confidence in growing holly in their garden. In fact they begin to picture just where they will see certain hollies growing. This reference to the use of hollies locally helps overcome one disadvantage of this kind of talk -- where to plant hollies.

I will shortly give an abbreviated talk but first let me tell you how I prepare for such a talk. First, I make a general plan. I always start with what is the common holly locally. In the D.C. area this is American. Then I go to English which is growing in popularity, followed by *cornutas* or *crenatas*. I have probably shown too many as I often show *pernyi*, *aquipernyi*, *ciliospinosa* and *pedunculosa*.

Next I usually make labels or tags which I will attach to the specimens -- I am speaking strictly as an amateur so my labels are simple. I fold a sheet of 8½ x 11 paper lengthwise and type the name and comments on the half-sheet leaving enough room at the left to punch a hole and insert string that will fasten the label to the twig. Last, the twigs are cut, labelled and spread out. The last twig I will speak about goes in the bottom of my basket, then the next to the last and so until the specimen on top is the one I start with.

Here then, is the outline of my talk. I encourage questions. The interruptions don't upset me because I need only pick up the next twig and can tell just what to say next. People often express surprise that I have no notes! If the discussion gets too lengthy, I pick up the next twig and that signals an end of that.

The twigs serve another purpose which is important to me, -- what to do with my hands. I hold the twig we are talking about until we are through and then start it going around the audience.

Earlier I said one of the objectives of such a talk was to give the audience confidence that they could do likewise. Therefore, we will have a short session of the Hoe and Hope Garden Club, but I'll only cover the American and English hollies and those only enough to give you a sample of how it goes.

(Mr. Gould, soliciting volunteers from the audience who acted as members of a typical garden club, then presented a skit incorporating the points he brought forth in his talk).

USING HOLLY IN THE LANDSCAPE

Mrs. Lois Paul
Longwood Gardens

Good Morning! While collecting my thoughts for the subject of hollies for the landscape my mind went back to a meeting I attended for the Holly Society at Swarthmore College many years ago. This was when Miss White was so warmly honored for her contributions. At that time I realized what a warm society you are.

Since that time we have moved away from Swarthmore and a little closer to Longwood Gardens and we started a small garden which I'm slowly developing and will include in my slides at the end of my talk. I thought I would include a little bit of the small private garden, and then with you're being here at Longwood, point out the things that we see here at Longwood and the hollies that have been used and why they've been used.

Now, in the first place, what kind of a garden are you going to have? Hollies will fit into a formal garden or an informal garden. In either case, the plants must provide a softness and warmth so that the visitor can more or less relate to it. I don't need to point out to you the characteristics of the plant material, but I feel that I would omit something if I did not bring out some of the points that we all see in hollies. First of all is the beautiful lustrous foliage and you've had all kinds of talks here about achieving that with proper feeding, propagation, control of insect pests and diseases. I had a certain amount of leaf miner on my American hollies, and since I've been using cottonseed meal regularly in the spring, they seem to have responded beautifully to this. I'm simply saying this as an amateur gardener, using an ingredient that seems to produce very healthy, nice plants. A very liberal application early in the spring. That is not the only thing that has been added, but it seems to have been the changing ingredient. Back to the foliage - it ranges from very fine foliage such as that of *Ilex crenata* 'Helleri' to the very coarse types, such as *I. cornuta*, that are big. The landscape designer has to decide how he is going to use all of this. A tiny leafed one wouldn't answer the job for some purpose, but it might be just the thing for another purpose; the same thought applies to a big leafed plant - it has to be the right place for the area that you're planting. The variegated forms can be used for accent - the green and white in combination with the other greens of the landscape. It can be a strong note and a very interesting note. Then you have the variations in the leaf formation itself. Some are spiny, some are entire - and this gives you an entirely different texture when working in the landscape.

Now the next point I'd like to make is that other than the foliage, we've got to know the shape and the

size of the many kinds we've dealing with. After all, the English and American hollies are great big trees. Some of the Japanese forms are very low and would take an entirely different place in the landscape. Some are spreading types. It's also possible to have an espalier. There are many shapes and sizes of hollies alone that can be used. Another use is certainly the specimen tree and this I'm sure you are all familiar with. You probably have a beautiful holly that you're very proud of and it has done well for you. These trees can grow right down to the lawn area or they can be pruned up the way ours are on the terrace here at Longwood. In the latter case you have the beautiful trunk showing, which is a strong note in the landscape also. You're not unfamiliar with hedges. Going back to our meeting at Swarthmore years ago, I remember being very much enchanted with a lovely *Ilex* hedge. I think it was American Holly - a beautiful thing. It can be tall. It can act as a barrier. It can act as a division in the garden or you can have it low as I have in my small garden with *I. crenata* 'Helleri', clipped but solid - a solid hedge that does the job for you. Or it can be an in between size - *I. crenata* can give you any height.

Hollies certainly work in well with a screen planting. Our little property adjoins a neighbor as so many of our grounds do and the first thing I wanted was privacy. I immediately ordered a few American hemlocks and a few American hollies. I could think of no better screening material and yet a lovely contrast - the needle part of the hemlock in contrast to the different texture of the holly. Also, to go on to the screen planting, I included some Carolina hemlocks providing a different texture than the American hemlock. The more you know about plant materials the more fun it is combining them - working with the different textures and different colored greens. With our screen plantings we don't want to rely just on evergreens. A planting gets rather dull and heavy and monotonous if we just have evergreens. We need deciduous plants to lighten up the landscape - to give it a light airy touch - and *Cornus florida* is particularly good worked in with this kind of thing. As you drive out of here, just on the bank as you would ride out, the juniper planting is magnificent, and how much more beautiful it is with those dogwoods planted at strategic places about it. Contrast of color in foliage, contrast in deciduous materials - it will be dropping its leaves and you then have the structure of the plant itself. Then often when we're landscaping we need some edging for our bed. Again I refer to my own little place. I have used *I. crenata* 'Helleri' as a hedge which is rather a definite mark in the landscape. Then I felt it was necessary to repeat this plant material. Repetition is a very strong note in a design. If we have just a collection of things, they don't relate. You need to tie them all together and by repetition you can do this. For instance, I found that with my hedges I could repeat the *I. crenata* 'Helleri' and let it

take a natural form. Going up a little flight of steps there was an area where I put in a nice native dogwood, a few plants of the *I. crenata* 'Helleri', and a planting of a ground cover I'm very fond of - and then small bulbs came up in the spring to add to the picture. It's quite complete: I have some spring bloom - the *Vinca* blooms off and on during the season, the *I. crenata* 'Helleri' is spreading out and taking on a natural form and, along with the steps of a little bit of stone, it looks like an outcropping rock. I find it very satisfactory. So we need to combine these things and my only thought in talking with you today is to suggest that we should enhance the beauty of the hollies that you know so well with the other plant materials that we all love. I'm sure these could be used as ground covers in the same way the junipers have been used out here as I've mentioned before. Then perhaps the most obvious thing that should not be left out is the berries in the landscape. We are always looking for fruits in the garden to attract birds and sometimes we're annoyed that the birds take them all. Yet, they serve their purpose. I love the black berries of the Japanese hollies - and also in connection with this I've used the *Taxus* hedge and there are the red fruits of the *Taxus*. So all of these go together in a very harmonious way. Now I've mentioned only the evergreen plant materials of holly - the deciduous *I. verticillata* is a lovely thing and should be used in a natural setting. The same is true for *I. glabra*. As you go around the gardens here, you will see *I. glabra* used in a very natural area down by the heath and heather gardens. So as we look at the plant, it tells us where it should go - what type of a planting it should be with. I know some of you come from southern New Jersey and I feel that no man can make a landscape that equals what we see when we canoe on the little rivers of New Jersey. I know Mrs. Everett is here who speaks on the pine barrens and the interest that she has in the plant material there. I have admired so much the hollies in this area and in the fall of the year, as I say, I don't think man could create the landscape that would equal it. The *Magnolia virginiana*, the different greens and then the contrast of the cranberries, the blueberries, and all the shrubs in the undergrowth. It's a magnificent thing; if you haven't been in that area in the fall you have a treat ahead. Now I want to cover just a few more plant materials that I believe should be brought into this kind of a landscape. The cherry laurel I've enjoyed growing with hollies, and the various forms of *Pieris*. Here at Longwood I've never seen the *Pieris floribunda* growing better. I've found this very difficult to grow but we have beautiful plantings of it throughout the woodland and down in the rock garden - heath and heather garden areas. Of course, *Leucothoe* adds a bronzy note that we haven't had in our plant materials. The *Stewartias* provide a lovely texture when the bark and the leaves drop off - bloom, fall color and so on. And of course you wouldn't want to leave out

the *Oxydendrum* with its wonderful flowers and red foliage in the fall. I like *Styrax japonica* very much with the white flowers - the very dark green dainty foliage. Then for ground covers, *Skimmia* and *Sarcococca* - these seem to all be naturals; they seem to ask to be put together.

Now I'd like to just go over a few slides - I have two groupings here. They've been picked at random. They're scenes taken here at Longwood. I will use them to bring out points of design about Longwood and then show a few of my own garden and tell you why I've used the things there.

You know Longwood has a great way of moving big trees and in taking groups around I find that I have a tree in a composition all fixed in my mind and then I find that they've moved it. Dave Patterson is in the audience and he'll know what I mean because it's been needed some place else. But here I thought was an extremely good start. A wonderful American holly planted by the Pierce house, the original house on the Longwood property - the date at the top is 1730 and what better plant material to go with it than the holly with its berries - the reds going beautifully with the reds of the brick building. We come to the formal gardens at Longwood - the fountain garden. This originally as I understand it was planted in boxwood and because of the location, the low area, probably air drainage, etc. box seems to have problems. And gradually the box was taken out - not all of it, there is still some remaining. Various forms of Japanese holly were substituted. They are doing beautifully. Note what the ivy-leaved geranium does to a very formal type of garden. The ivy-leaved geranium is the pink rim and it adds so much to have just a little bit of color in the wonderful formal garden. Right now the focal point is being blocked out by the big fountain in the middle but you know how this hangs together. Any garden that is well conceived has basic points that we are all familiar with. Let us say a terminal feature (cross axes) - plant material placed of course where it should be placed. The informality of the flowers with the formalities of the garden are very nice. These are shots of close-ups showing various forms of the Japanese holly along with the grass and the contrast that you see. The canals of water - with holly below, holly at the top. Looking back toward the conservatory, note the strong note in the landscape. On either side of the conservatory are the hollies, American hollies that I'm sure you are familiar with right at the main entrance. Three big ones on either side: the two on the inside are female hollies and the one behind is a male. And, of course, you get the beautiful fruiting and the visitors see the two in the front that have the fruit and the one in the back is less conspicuous. But see what it does to that building, a strong note. There are several things that I want to point out: the fact that these hollies had been trimmed up as I had mentioned

earlier in my talk - the strong stems, strong trunks of the trees showing; and then very cleverly there is a grate underneath. Longwood has millions of visitors as you know and people are going to get into all the nooks and crannies to look and see. And the grate over the top of that ground area, besides being very attractive, lets water go down to the roots, but it keeps people from trampling and hardening the soil itself. *Ilex crenata* 'Green Island' is the low holly in the background - *I.c.* 'Helleri' on either sides, awfully big plants but all in keeping the scale with the terminal feature at the end of the Empress Colonial walk. *I.c.* 'Green Island' again near the conservatory. As you look across now at the base planting, this is the south side of the conservatory. Hollies have been used throughout from east to west and what better plant material. It's green all the time, there are various forms of berries and it doesn't get too high as the low forms have used. So it doesn't come above the glass and cut out light. It's one of the best examples I've seen of using the Japanese forms of holly. 'Rotundifolia', 'Latifolia', you name it, and it seems to be there. 'Stokes' and 'Convexa', you can see thriving, and this is the thing to do. I forgot who it was who was lecturing here who was saying that if you find a material doesn't like you, don't try to hold on to it. Get rid of it and put in something else. And this is just what Longwood has done here with the fountain garden. Evergreens can carry the story here as you see. The note that I mentioned - the silver edged cultivar, all green around. This calls attention to itself. It says, "Look at me, I'm different". Therefore, when you use anything that is variegated, you certainly want to know that it's placed just in the proper position. Here we see inkberry, or *I. glabra*, used in the natural setting.

Now we go to my little garden that I've been developing slowly. I've just about got the structure that I want. In the country, I've felt the need of putting a fence around it. We live where cattle and steer get out very often and trample the area so I felt that I had to protect it. There are lilacs and the one deciduous tree there is a willow oak. The one big conifer evergreen in the middle is the only tree that was left when we cleared away all the weed trees and the poor plant material. That is a *Chamaecyparis pisifera*. I've used *Taxus* and that hedge now is beginning to close together and make the note that I wanted. The Carolina hemlocks are right beside the tool shed; Rhododendrons; there is a holly which is almost being shaded out - only in the picture, however - by the very vigorous Canadian hemlock on the left. This is the little *I. crenata* hedge; my husband is great at keeping it clipped and trimmed. It borders two sides of the little porch. I used a juniper in a hanging basket; that's been fun - another texture - another form. The Japanese dogwood (*Cornus kousa*) in the bed have a ground cover of wild strawberries;

and *Taxus* with their red berries in the fall - a little pool with some water. You always want some kind of water for birds and for the sound of it. Here are the birds - we're looking from the inside out onto the porch. The little *I. crenata* 'Helleri' hedge - the birds hop on it, and it's as strong and as sturdy as can be. These are the goldfinches that have been coming year after year. In the beginning I established two beds of the Bowles variety of *Vinca minor* - either side of the path and then to the right is another hedge of the *I. crenata* 'Helleri'. An espaliered crabapple. This could have been an *I. crenata* espalier. A place to sit and look back, always to contemplate what changes you want to do - what things that you want to add and what you have done. *Viburnum carlesii* - again a deciduous note - flowers, perfume. We couldn't be without this form of gardening. Then lastly, just outside of my fenced in area - and reaching out into the other parts of the garden - I wanted to have some blueberries and they've done beautifully. I have four different cultivars and they have been fruiting very nicely. Here is a young one in heavy fruit and they have great promise to come when they get big and close in.

Thank you very much.

INSECT CONTROL FOR HOLLIES

Dr. Dale F. Bray, Chairman of the Department of Entomology at the University of Delaware informed his audience that insect control programs for holly will have to be changed in the near future due to increased restrictions on certain insecticides. "D.D.T. is gone, Dieldrin will be gone and maybe even Chlordane and some of the other substances will likely disappear. We are in a serious situation as far as the chemical control of insects is concerned. It may be good for nature that we are in this serious situation but we are going to have some other problems if we do lose them." Dr. Bray discussed some of the less common insects that attack holly as mentioned below.

Holly Pit-making scale: common in the Rehoveth Beach area. A little yellow scale that settles down on the bark and as it sucks sap, it injects saliva and the saliva causes the cells to collapse right under it and the scale just sort of sinks into a little depression. Heavy infestations are not uncommon. This insect can be controlled with a dormant oil. The efficiency of the oil is greatly enhanced if you have a mixture of the Ethion-oil mix. A summer spray in early July repeated in about 10 days using Malathion should also work.

The Walnut Scale: A common scale on holly. With the use of a hand lens, it is possible to distinguish this scale from all the other scales that attack holly. If you turn this scale over with a pin, you will observe

3 lobes on each side of the insect. The presence of these lobes will indicate that you have the Walnut Scale. Here again, a dormant oil spray is good and is enhanced by Ethione. Summer sprays should be used about a month earlier than those for the Holly Pit-Making Scale: two sprays of Malathion, June 1st and 10th. Quite often Sevin added to the Malathion spray will increase the kill of the scale but the use of Sevin is not generally recommended as Sevin will increase the likelihood of a buildup of mites and it will also kill bees worse than any other insecticide if applied when anything is in blossom and the material gets on the blossoms the bees are visiting.

In discussing the Holly Midge, Dr. Bray reported that Mr. Norman H. Cannon of Greenwood, Delaware obtained good control of this insect pest in 1970 with a spray of Chlordane applied 7 to 8 days before the adult midge emerged, or about 7 to 8 days before the flowers opened. Since Chlordane is relatively mild in toxicity to bees, such a spray schedule can be used against the Holly Midge with minimal kill of honeybees working the holly flowers.

In his concluding remarks, Dr. Bray stated that one of the main efforts of his department at the University of Delaware is to emphasize biological control of destructive insect pests and thus reduce the need for, and use of, toxic chemical sprays. Hopefully, biological control will be a major tool of entomologists in the future.

ARTHUR HOYT SCOTT HORTICULTURAL FOUNDATION OF SWARTHMORE COLLEGE

The Arthur Hoyt Scott Horticultural Foundation was established at Swarthmore College in 1929 by Mrs. Arthur Hoyt Scott and Owen and Margaret Moon as a memorial to Mrs. Scott's husband, a member of the class of 1895 at Swarthmore College. Since its inception, the Foundation has received support from many other interested individuals.

The Scott Foundation's main goal is to encourage horticulture by visual demonstration. Its income is used to acquire, cultivate, and propagate on the Swarthmore campus living plant material which is hardy in eastern Pennsylvania and suitable for private gardens.

The Foundation strives to grow only the best of the ornamental plants hardy in eastern Pennsylvania. The work "best" applies not only to beautiful flowers or foliage, but to abundance of bloom, good habit of growth, hardiness, vigor, and resistance to disease. A continual process of selection is going on. Each year new plants are added. Some are discarded after a few years of trial because of shortcomings. Others, however, prove so superior that they render obsolete varieties long considered the best of their type.

Many of the collections have a national reputation: the lilacs in front of the Meeting House, the 2,000-plant rhododendron collection, the flowering cherries between the Meeting House and Cedar Lane, the magnolias near the Worth Health Center, and the daffodils--tens of thousands of which are naturalized on the campus.

The Foundation's plantings on the campus conform to a general botanical scheme. Different representatives of various families have been grouped together, thus giving the general public as well as the professional plantsman the opportunity to study and compare related species and varieties. A great counterclockwise botanical circle is drawn around the campus beginning at Wharton Hall with its primitive ginkgo and yews and continuing in botanical order along the railroad to Chester Road, then north to College Avenue and west to center campus and the more advanced representatives, such as the viburnums and honeysuckles, around Beardsley and Hicks Halls.

Although most plantings conform to this general botanical scheme, there has also been an effort to use plants to attain pleasing landscape settings. In other cases the botanical sequence has been broken in order to provide good planting sites for specific specimens or collections; such groups as peonies, daffodils and day-lilies require special locations in order to ensure that they prosper.

The public is invited to come see the Scott Foundation collections and to ask questions about them in order to learn how many interesting plants they themselves may enjoy in their own gardens. Visitors may use this map to find various collections and are also encouraged to study the push-button relief map of the campus in the Scott Building near the Scott Outdoor Auditorium. Visitors are invited to stop in at the Scott Foundation office in the old student observatory wing of Cunningham House to ask questions about the collections and to find out where specific varieties may be obtained.

NOTEWORTHY COLLECTIONS

Flowering Cherries (*Prunus*): In 1931 the Foundation received a substantial gift to establish a collection of flowering cherries. Part of this gift was used to buy Japanese cherries from the late A. E. Wohlert of Narberth, Pennsylvania, the first big grower and specialist in Japanese cherries; the remainder was used for soil preparation. Following this soil preparation, two plants each of 34 cultivars of Japanese cherries were planted. These plants formed the nucleus of our collection which now numbers some 59 taxa.

Conifers (various genera): This broad category contains a great number of genera. Most of those which are hardy in our area have been included in the Foundation's collections. Presently we have 27 genera represented, most of them planted in the pinetum.

Choice dwarf forms of several genera such as junipers, arborvitae, and false cypress can be seen in the new dwarf plant collection situated in the Worth-Bond quad.

Crabapples (*Malus*): The Foundation's main crabapple collection, consisting of approximately 75 varieties, has been planted around the perimeter of Cunningham Field, east of Chester Road.

Magnolias (*Magnolia*): The outstanding magnolia collection is situated around the Worth Health Center adjacent to Chester Road. Most of the hardier types have been included. Of special note are the many varieties of the saucer magnolia (*M. soulangiana*). A recent introduction of the Foundation is the evergreen 'Henry Hicks' magnolia, a hardy evergreen variety of the sweetbay magnolia. The many varieties of small spring-flowering bulbs planted under certain of these trees provide additional interest to this collection.

Lilacs (*Syringa*): The lilacs, which were among Arthur Hoyt Scott's favorite flowers, are well represented in the Foundation's collections. Presently, there are approximately 20 species and over 150 varieties including early and late hybrids as well as the well-known varieties commonly called French hybrids.

Tree Peonies (*Paeonia*): The major tree peony collection is located between Clothier Hall and Sharples Dining Hall. Tree peonies have also been used frequently as general landscape subjects. The total collection now numbers nearly 100 varieties, including many of new yellow or lutea hybrids.

Herbaceous Peonies (*Paeonia*): There are approximately 50 varieties of the early flowering kinds in the Foundation's collections. Most of these are comparatively new to the garden world and outstanding for their vigor and beauty. There are, in addition, nearly 150 of the late flowering varieties. Representatives of the double, single, and Japanese types all have been included.

Azaleas (*Rhododendron*): This group of nearly 20 species and more than 200 varieties represents one of the Foundation's major collections. The most numerous hybrid races are the Ghents, Knap Hills, Kaempfers, Kurumes, Glenn Dales and Exburys.

Rhododendrons (*Rhododendron*): More than 25 species and 300 varieties are included in the collections. Early-blooming and late-blooming Dexter hybrids and hybrids of other American breeders are represented. The Foundation, for many years, has been supporting rhododendron breeding programs of its own. Resultant varieties are on display.

Daffodils (*Narcissus*): More than 600 varieties have been planted in study collections and have been naturalized in many places on the campus. An attractive display is situated on either side of Magill Walk which leads from Parrish Hall to the railroad station.

Day-lilies (*Heemerocallis*): Half a dozen species and more than 100 varieties of this hardy perennial are planted in the collections.

Funkia or Plantain-Lily (*Hosta*): More than 50 species and varieties of this prized foliage and flowering plant are presently displayed. The bulk of this collection is located in the Wister Garden at 735 Harvard Avenue.

Irises (*Iris*): Most of the 300 species and varieties of the iris are situated in study collections and at the Wister Garden.

Labeled collections of many of the newer rhododendrons, daffodils, day-lilies, plantain-lilies and other herbaceous plants may be seen in the Wister Garden at 735 Harvard Avenue (south of the football field). These plantings are also part of the Scott Foundation collections.

Director: Joseph W. Oppe
Assistant Director: David F. Melrose
Director Emeritus: John C. Wister

CALENDAR OF BLOOMS

Early Spring (March and April)

Azaleas (*Rhododendron* sp.)
Brooms (*Cytisus* sp.)
Cornelian-Cherries (*Cornus mas* and *C. officinalis*)
Early Daffodils (*Narcissus* sp.)
Early Rhododendrons (*Rhododendron* sp.)
Flowering Cherries (*Prunus* sp.)
Flowering Crabapples (*Malus* sp.)
Flowering Quinces (*Chaenomeles* sp.)
Forsythias (*Forsythia* sp.)
Lilacs (*Syringa* sp.)
Magnolias (*Magnolia* sp.)
Spring Bulbs (includes *Chionodoxa*, *Crocus*, *Eranthis*,
Galanthus, *Hyacinthus* and *Muscari*)
Viburnums (*Viburnum* sp.)
Weigelas (*Weigela* sp.)

May

Azaleas (*Rhododendron* sp.)
Crabapples (*Malus* sp.)
Daffodils (*Narcissus* sp.)
Dogwoods (*Cornus* sp.)
Herbaceous Peonies (*Paeonia* sp.)
Lilacs (*Syringa* sp.)
Mountain Laurel (*Kalmia* sp.)
Rhododendrons (*Rhododendron* sp.)
Tree Peonies (*Paeonia* sp.)
Wisterias (*Wisteria* sp.)

June

Day-Lilies (*Heemerocallis* sp.)
Herbaceous Peonies (*Paeonia* sp.)
Late Rhododendrons (*Rhododendron* sp.)
Roses (*Rosa* sp.)

July

- Butterfly Bushes (*Buddleia* sp.)
- Clethras (*Clethra* sp.)
- Day-Lilies (*Hemerocallis* sp.)
- Plantain-Lilies (*Hosta* sp.)

August

- Butterfly Bushes (*Buddleia* sp.)
- Day-Lilies (*Hemerocallis* sp.)
- Goldenrain-Tree (*Koelreuteria* sp.)
- Hostas (*Hosta* sp.)
- Franklin-Tree (*Franklinia* sp.)
- Stewartias (*Stewartia* sp.)
- Autumn Months (Foliage and Fruit)
- Black Gum (*Nyssa* sp.)
- Cherries (*Prunus* sp.)
- Crabapples (*Malus* sp.)
- Dogwoods (*Cornus* sp.)
- Katsura Tree (*Cercidiphyllum* sp.)
- Maidenhair Tree (*Ginkgo* sp.)
- Maples (*Acer* sp.)
- Oaks (*Quercus* sp.)
- Sweet Gum (*Liquidambar* sp.)
- Viburnums (*Viburnum* sp.)
- Witchhazels (*Hamamelis* sp.)

Winter Interest (December to March)

Wintersweet (*Chimonanthus praecox*) blooms spasmodically during mild spells. Late in January, Chinese witchhazel (*Hamamelis mollis*) blooms followed by Japanese witchhazel (*H. japonica*). Snowdrops (*Galanthus* sp.) and winter aconite (*Eranthis* sp.) start blooming late winter in most seasons. The pinetum is interesting all winter. Broad-leaved evergreens are lovely in the area of the Scott Auditorium and around the Meeting House. Many berried trees and shrubs are attractive late in winter, especially the chokeberries (*Aronia* sp.), cotoneasters (*Cotoneaster* sp.), crabapples (*Malus* sp.), firethorns (*Pyracantha* sp.), hawthorns (*Crataegus* sp.), hollies (*Ilex* sp.), photinias (*Photinia* sp.) and viburnums (*Viburnum* sp.). The Crum Woods, with their native stands of tulip-poplar (*Liriodendron* sp.), hemlock (*Tsuga* sp.), oaks (*Quercus* sp.) and ash (*Fraxinus* sp.) are always lovely.

MINUTES OF THE TRUSTEES' MEETING

The Hotel DuPont
Wilmington, Delaware
November 3, 1970

The fall meeting of the Trustees of the Holly Society of America, Inc. was called to order at 7:45 p.m. by President Daniel Fenton.

Those present were: Mr. William C. Baumann, Dr. Samuel O. Curry, Dr. Oliver D. Diller, Mr. Gene Eisenbeiss, Mr. Bluett C. Green, Jr., Mrs. Dorothy E. Hansell, Mr. William F. Kosar, Mr. Larry F. Livingston, Mr. Stewart H. McLean, Dr. Elwin R. Orton, Jr., Mr. C. Franklin Peterson, Mr. Paul K. Reiniger, Mr. Frank Suplee, Jr., Mr. Charles A. Young, Jr. and by special request, Trustee-elect Mr. Anthony R. Gould.

OLD BUSINESS:

The reading of the minutes of the Trustees' meeting held at Millville, N.J. on July 24, 1970 was dispensed with at the suggestion of President Fenton. There being no additions or corrections to the minutes as distributed to the Trustees, it was moved by Mr. Peterson and seconded by Dr. Curry that they be approved as recorded. The motion carried.

The Treasurer's report was presented as follows:

FINANCIAL STATEMENT OF THE HOLLY SOCIETY OF AMERICA, INC.

September 1, 1970 - November 2, 1970

Checking Account - Union Trust Co.		
Balance on Deposit, September 1, 1970		\$2745.52
Receipts		
Dues	\$ 114.00	
Publications	14.75	
47th Meeting Reservations	2243.75	
C. R. Wolf Fund for Handbook Commission	81.60	
	<u>2454.10</u>	<u>\$2454.10</u>
Total Funds Accountable		<u>\$5199.62</u>
Expenditures		
Stationery & Supplies	\$ 22.80	
Printing	981.10	
Postage	159.43	
Clerical Services	65.50	
Bank Service Charges	8.00	
47th Meeting Expenses	112.90	
Handbook of Hollies Expenses	89.15	
Honorariums	500.00	
Gifts (Flowers, M. Fulton)	11.80	
	<u>\$1950.68</u>	<u>1950.68</u>
Balance on Deposit, November 2, 1970		<u><u>\$3248.94</u></u>
Holly Research Fund Savings Account - Union Trust Co.		
Balance on Deposit, September 1, 1970		\$4832.95
No Transactions		
Balance on Deposit, November 2, 1970		<u><u>\$4832.95</u></u>

Savings Account - Aurora Federal S & L Assoc.	
Balance on Deposit, September 1, 1970	\$3446.94
No Transactions	
Balance on Deposit, November 2, 1970	<u>\$3446.94</u>

C. R. Wolf Trust Account - South Jersey National Bank Income of \$81.60, Deposited in the *Handbook of Hollies* committee account.

Principal of \$15,281.37

Upon a motion by Dr. Curry and a second by Mr. Livingston the Treasurer's report was accepted as read. The motion carried.

Mr. McLean, chairman of the nominating committee, presented the results of the recent election of Trustees as follows:

New Trustees

Mr. Jackson M. Batchelor
Mr. Ralph L. Dodge
Mr. Anthony R. Gould

Also Receiving Votes

Mr. Harry Wm. Dengler
Mr. Rod Derickson
Dr. Oliver D. Diller

President Fenton expressed his thanks to the retiring Trustees for their cooperation and dedicated service during their term of service. The three Trustees going off the board are Mr. Paul K. Reiniger, Mr. Frank Suplee, Jr., and Mr. Charles A. Young, Jr.

Mrs. Hansell, chairman of the Holly Handbook Revision Committee distributed a copy of the newly published *Handbook of Hollies* to each Trustee (see under Committee Reports elsewhere in these *Proceedings* for the full report).

All of the Trustees present joined President Fenton in expressing the gratitude of the Holly Society to Mrs. Hansell in appreciation for the vast amount of time and professional effort she spent making possible the publication of the *Handbook of Hollies*.

Dr. Curry reported that arrangements are well under way for the Holly Society meeting to be held at Penn. State University on October 26, 27, 28, and 29, 1971. Dr. Richard Craig will serve as local host in charge of program preparation in cooperation with the Trustees.

There was some discussion at this time concerning the length of the annual meetings of the Holly Society of America. Since there was not enough sound information on which to base a decision, the matter was tabled. The Secretary was instructed to conduct a poll of the membership regarding annual meetings to ascertain their views relevant to location and length of the meetings.

Dr. Curry further reported that the dates of the annual meeting to be held at the Ida Cason Callaway Gardens are Oct. 24, 25, 26, and 27, 1972. Mr. Fred Galle, Director of Horticulture, will be the local host in charge of program preparations in cooperation with the Trustees.

Upon a motion by Mr. Baumann and a second by Mr. Suplee, the locations for the 1972, 1973 and 1974 meetings of the Holly Society of America are as follows:

1972 Ida Cason Callaway Gardens
1973 Williamsburg, Virginia
1974 Louisville, Kentucky

The motion carried.

The auditing committee presented its report of the annual audit of the financial records of the Holly Society of America (see under Committee Reports elsewhere in these *Proceedings*).

Upon a motion by Mr. Baumann and a second by Dr. Diller, a committee comprised of Mr. C. A. Young, Jr., Mr. McLean, and Mr. Green, Jr., was appointed to review and determine which of two insurance policies offered to the Holly Society would provide better coverage for the premium quoted. They are to report their findings to President Fenton and then proceed with the purchase of the better policy. The motion carried.

NEW BUSINESS:

Upon a motion by Mr. Suplee and a second by Mr. McLean the sum of \$100.00 was allocated for the purchase of a handcrafted jewelry piece to be presented to Mrs. Hansell as a token of appreciation for her efforts in editing the revised edition of the *Handbook of Hollies*. The motion carried.

It was moved by Mr. Peterson and seconded by Mr. Livingston that the Holly Society of America allocate \$100.00 to be used by the Mount Holly Chapter in the manner prescribed by the Holly Society to defray the expenditures incurred in sponsoring a holly display in the Philadelphia Flower Show during the spring of 1971. The motion carried.

Upon a motion by Dr. Curry and a second by Dr. Diller the Holly Society will reimburse Mr. Green, Secretary-Treasurer, for any costs up to \$100.00 incurred for the moving of Holly Society records and equipment to Mr. Green's new residence. The motion carried.

The President read a letter from Mr. Fred Galle pertaining to a color chart project of the American Horticultural Society and requesting the Holly Society to give some indication of its intention to purchase the proposed new color chart. After some discussion the Secretary was directed to correspond with Mr. Galle and inform him that the Holly Society will not purchase a quantity of the color charts as suggested,

but will be happy to give full publicity to this project through the "Holly Letter" at such time as the A. H. S. would deem it to be advantageous.

Upon a motion by Mrs. Hansell and a second by Mr. Baumann the Holly Society will offer to anyone joining the Holly Society in the sustaining member classification a one-year membership and one copy of the *Handbook of Hollies* at the reduced price of \$14.00. This offer is to be good only until January 1, 1971. The motion carried.

Upon a motion by Dr. Curry and a second by Mr. Baumann the Holly Society of America will offer the following cost reductions on quantity purchases of the *Handbook of Hollies*:

- 1 to 9 copies - no discount
- 10 to 20 copies - \$1.00 discount
- 21 & up copies - \$2.00 discount

These prices do not include any packing or shipping charges which will be added to any order received. If purchased for resale, the buyer must agree to sell for \$5.00 per copy, plus 50 cents postage if mailed. The motion carried.

Upon a motion by Mr. Kosar and a second by Mr. McLean, the spring, 1971 meeting of the Trustees will be held at the Wye Institute, Queenstown, Maryland. The date and time will be announced by letter. The motion carried.

There being no further business requiring board action at this time, a motion for adjournment was made by Dr. Diller and seconded by Mr. Livingston. The motion carried.

The meeting was adjourned at 10:15 p.m.

Respectfully submitted
Bluett C. Green, Jr.
Secretary-Treasurer

REPORT OF THE LONG ISLAND CHAPTER

Mrs. John B. Wolff, Jr., Secretary
144 Brixton Road
Garden City, N.Y. 11530

The Long Island Chapter had a booth at the Long Island Horticultural Society Flower Show in November, 1969.

December 14, 1969 Meeting: Mr. Gordon Jones escorted the members on a walk during a snowstorm to see some of the hollies grown at Planting Fields. After returning to the meeting room, Mrs. Sidney Burns demonstrated the use of holly in Xmas decorations: wreaths, arrangements with flowers, etc. Some of us held lucky numbers and were fortunate enough to bring them home to use over the holidays.

February 8, 1970 Meeting: Plans were made for the International Flower Show;

March 1, 1970 Meeting: One of our members sug-

gested that all members supply the chapter with a list of holly varieties owned by each member so that a coordinated list could be made. Our chapter is going to propose a list of reputable nurseries in the Metropolitan area selling named cultivars of holly.

International Flower Show: Our exhibit at the show was indeed attractive as well as educational. Cuttings were growing in pots and others were displayed on a board as a background for the booth. We showed cuttings of plants that have been mistaken for holly. For example, *Mahonia*, *Skimmia*, *Osmanthus*, *Acuba*, and plants that are holly and are not recognized as such; i.e. *I. crenata*, *I. glabra*, *I. rugosa*, *I. pedunculosa* and *I. ciliospinosa*. People from Maine, New Hampshire, Massachusetts, Connecticut, Rhode Island, Virginia, and Illinois visited the booth as well as those from the Metropolitan area.

We sold over four thousand pamphlets. The exhibit received a Silver Certificate and a monetary award.

April 22, 1970 Meeting: Mr. James Titus talked to us about pests and insecticides.

A successful plant sale was held at Planting Fields Arboretum on May 2nd in conjunction with the Long Island Rhododendron Society.

Members enjoyed a trip to the Sunken Forest on Fire Island in October, 1970.

TYLER ARBORETUM AND PLANT RECORDS CENTER

Members boarded buses on the afternoon of November 5th for a trip to the John J. Tyler Arboretum near Lima, Pennsylvania. Mr. Robert MacDonald, Director of the Arboretum, welcomed the group at Lachford Hall, the original Manor House on the property, and conducted a guided tour of the holly collection. Some 40 named cultivars of American holly, as well as over 25 species and varieties of English, Chinese, and Japanese hollies are currently established in this planting.

Society members were also afforded the opportunity to tour Lachford Hall, a portion of which serves as a museum of Early American Furniture. A stone ivy-covered building that formerly served as a museum, print shop, and library for Minshall and Jacob Painer, descendants of Thomas Minshall who received the original land grant from William Penn, was also open to the group. At the conclusion of the tour, refreshments were served, courtesy of the Tyler Arboretum.

The Tyler Arboretum serves as the home of the Plant Records Center of the American Horticultural Society. Mr. Robert MacDonald, Director of the Arboretum, also serves as Director of the Plant Records Center. A detailed article describing the work and goals of the Plant Records Center will be prepared by Mr. MacDonald for publication in a future issue of the *Holly Letter*.

SELF-GUIDED TOUR

A self-guided tour of interest to holly growers and holly enthusiasts was available to members immediately following the close of the formal meeting on November 6, 1970. Arrangements for this tour were made by Mr. Rod Derickson.

The many hybrid hollies in commercial production at the Conard Pyle Nursery Company were of great interest. These new hybrid hollies were developed by Mrs. Kathleen K. Meserve of Holly-by-Golly, St. James, L.I., New York. Mrs. Meserve is a charter member, and past trustee, of the Holly Society of America, and has been responsible for much of the pioneer work in the field of holly hybridizing. Notable among her many achievements in holly breeding are the patented hybrids *Ilex x meserveae* 'Blue Girl' and 'Blue Boy' now in commercial production at the Conrad Pyle Nursery Company.

An outstanding holly hedge was of interest at the residence of Ernest May, and gardens featuring many different cultivars and species of holly were visited at the homes of James R. Frorer, Rod Derickson, and Curtis C. Wallace.

BUSINESS MEETING Reports of Standing Committee

The meeting was called to order by President Daniel G. Fenton.

The membership rose for a moment of silence in tribute to Maynard Fulton, G. Flippo Gravatt, and H. Gleason Mattson, who passed from our midst in recent months. All three of these men were charter members of the Holly Society of America and were very active in work of the society in past years.

Dr. Samuel Curry, Executive Vice-President of the society announced that the next meeting of the society will be held at the Pennsylvania State University on October 26, 27, 28 and 29, 1971.

Mr. Stewart H. McLean, Chairman of the Nominating Committee reported that Jack Batchelor, Larry Dodge, and Anthony Gould were elected to 3 year terms on the Board of Trustees. Retiring Trustees are Paul Reiniger, Frank Suplee, and Charles Young. President Fenton expressed his personal thanks and the gratitude of the society to these men for the time and talents that each devoted to the work of the society.

Mr. Bluett C. Green, Jr., Secretary-Treasurer, reported a decline in society membership for the past year, noting that this trend is currently being experienced in many plant societies. Mr. Green discussed his efforts in contacting the office of the American Association of Nurseryman for publicity to help the society in its attempt to gain new Sustaining Members.

Mr. William F. Kosar, Administrative Vice-President, called upon committee chairmen for the following reports.

RESEARCH DEVELOPMENT COMMITTEE

Mr. Rod Derickson, Chairman

In my second annual report on the activities of the Research Development Committee, I am pleased to be able to tell you that all of the projects initiated last year are moving along nicely. In a few moments I will introduce the real workers on my committee who will provide you with a summary of results to date.

First, I want to announce a new project which I am sure will meet with your hearty approval. We are in the process of revising and bringing our Bulletin No. 2 - *Insect Pests of Holly* up-to-date.

When I say "we", I am referring to Dr. Charles W. McComb, our entomologist, who has kindly consented to assume the task of revising the bulletin; assisting are Dr. Davidson of the University of Maryland Experiment Station staff and Mr. Shriver of the Entomology Extension staff. As you can see, we are much indebted to the University of Maryland for making this project possible.

I would like to mention that the new bulletin will contain only information on the life histories and damage caused by insect pests known to affect holly. The control recommendations will be issued in a supplement. In this way we can revise the control measures when needed, and in the long run we should effect a saving since we won't have to reprint the main bulletin.

Now it is my privilege to introduce the men who will bring us up-to-date on the various research projects supported, in part, by the Research Fund of the Holly Society of America Inc.

RESPONSE OF CONTAINER-GROWN PLANTS OF AMERICAN HOLLY TO SOLUBLE AND SLOWLY SOLUBLE FERTILIZER MATERIALS

Roy L. Flannery and Elwin R. Orton, Jr.
Rutgers University
New Brunswick, N.J. 08903

Dr. Flannery presented a preliminary report on the status of this project and showed 2 x 2 colored slides illustrating the excellent response of plants of *Ilex opaca* 'Jersey Knight', 'Farage', 'Judge Brown', and 'Manig' to such fertilizers as Eeey Grow, MagAmp, Osmocote, Ureaform, and sulfur-coated Urea. Samples of the plant material utilized in this study were on display in the foyer of the Gold Ballroom. Experimental data from this study will be summarized and presented in detail following the 1971 growing season.

WAX SCALE RESEARCH PROGRESS REPORT

Dr. John A. Davidson
Department of Entomology
University of Maryland
College Park, Maryland 20742

On October 14, 1969 I sent you a report of Mr. Gimpel's research on the wax scale. Please consider this second report an annual report covering the period October 31, 1969 to November 1, 1970.

(1) Four generations of wax scales have been observed in the greenhouse and 2 generations in the field.

(2) The life cycle out-of-doors in the College Park area of Maryland has been:

- (a) eggs first layed May 10
- (b) eggs begin hatching June 10
- (c) 2nd instars first appear July 6
- (d) 3rd instars first appear July 21
- (e) 4th instars first appear August 10

(3) Crowding on the host appears to increase the time required for transformation on the next instar up to 1 month. It also appears to cause stunting of the individuals involved. Usually the adult female (4th instar) stage is completed by mid-September, in the College Park, Maryland area.

(4) 600 slides representing the *Ceroplastes* species of North America north of Mexico have been examined thus far. Because of the difficulty in working out the taxonomic status of the species in this genus, Mr. Gimpel spent one weekend in conference with specialists at VPI, and numerous afternoons with specialists in the USNMNH. He also travelled to the British Museum (at his own expense) to see the *Ceroplastes* types deposited there. As a result it now appears the wax scale species in the eastern U.S. causing considerable concern to growers of holly and other ornamental plants is *Ceroplastes ceriferus* (Fab.) and not *C. pseudoceriferus* as has been stated by several specialists around the world who have seen our specimens.

(5) Thus far no really useful biological control agents have been discovered out-of-doors in Maryland, although from time to time the hymenopterous parasite *Coccophagus fraternus* (Wah.) builds up high populations on certain plants in the greenhouse.

Work in Progress

1. Drawings are now being prepared for the *Ceroplastes* species in N.A. north of Mexico.
2. A tentative key has been prepared to aid in the identification of *Ceroplastes* species in N.A.
3. Each species will be redescribed.
4. One more generation of *C. ceriferus* will be reared in the greenhouse to fill in uncertain areas in our knowledge of the life history

5. We now project this work will be finished by June 1971, or August 1971 at the latest.

REPORT OF THE AUDITING COMMITTEE

William J. Dennis
Druck Valley Road
R.D. 7, York, Pa. 17402

The Auditing Committee has completed its annual audit of the books and records of the Society for the fiscal year ending August 31, 1970. The exhibits attached hereto will show the results of the audit.

Each of these exhibits, numbered 1, 2, and 3, we believe will be self-explanatory. Exhibit 1 will show that the Society successfully operated within its budget. The Net Worth shown in Exhibit 2 increased \$582.75 for the year, after charging it for the value of obsolete Office Equipment in the amount of \$399.62. We have a question regarding an amount of \$35.62 in the C. R. W. Investment Account. This matter will be taken up with the Depository in Millville by your committee.

We have examined the paid vouchers, reconciled the various bank accounts, and in general found the books of record to be very well maintained.

Respectfully submitted,

William J. Dennis
Dr. S. O. Curry
Joseph Kische

HOLLY SOCIETY OF AMERICA, INC. STATEMENT OF RECEIPTS AND EXPENSES

August 31, 1970

EXHIBIT NO. 1

INCOME	
Dues	\$4558.00
Interest	161.00
Sales, Publications	108.80
Annual Meeting:	
Receipts	2563.00
Expenses	<u>2536.38</u>
Sale, Decals	26.62
Holly Registration	20.75
Rental, Membership List	<u>75.00</u>
Total Income	4962.17

EXPENSES

Awards and Citations	19.40	
Rent, Safe Deposit Box	5.00	
Slide Library Supplies	19.50	
Garden Show Contribution	100.00	
Editors Expenses	90.66	
Dues, Other Organizations	25.00	
Honoraries	1050.00	
Bank Service	15.49	
Stationery and Supplies	76.51	
Printing	2350.85	
Postage	334.63	
Clerical Services	467.00	
Officers Meeting Expenses	248.00	
Telephone	82.36	4887.40
		<u>4887.40</u>
<u>Excess Income</u>		<u>\$ 74.77</u>

**HOLLY SOCIETY OF AMERICA, INC.
STATEMENT OF NET WORTH**

August 31, 1970

EXHIBIT NO. 2

ASSETS

Cash, Union Trust Co.		
General Fund		\$2409.42
Holly Handbook Fund,		
Income, C. R. Wolf		
Trust Fund	650.93	
Expenses to 8-31-70	314.83	
Balance in Holly Handbook Fund		<u>336.10</u>
Total Cash, Union Trust		
Checking Account		2745.52
Cash, Aurora Fed. S & L		<u>3446.94</u>
Total Cash on Deposit		6192.46
Office Furniture and Equipment		806.00
Holly Research Fund		<u>6539.07</u>
TOTAL ASSETS		<u><u>13537.53</u></u>
LIABILITIES		
Reserve for Holly Research		6539.07
Reserve for Holly Handbook		<u>336.10</u>
Total Liabilities		6875.17
CAPITAL		
Surplus	6587.59	
Add; Income Excess	<u>74.77</u>	<u>6662.36</u>
TOTAL LIABILITIES AND CAPITAL		<u><u>\$13537.53</u></u>

**HOLLY SOCIETY OF AMERICA, INC.
HOLLY RESEARCH FUND**

August 31, 1970

EXHIBIT NO. 3

RECEIPTS

Cash Balance, September 1, 1969		\$4275.60
Add: Auction Receipts	425.25	
Contributions	251.00	
Interest	<u>181.10</u>	<u>857.35</u>
		5132.95

PAID OUT

Grants; Rutgers	200.00	
Oregon State University	<u>100.00</u>	<u>300.00</u>

CASH BALANCE

4832.95

INVESTMENT ACCOUNT

Stock, 21 shares of Purex Corp.	760.61	
Saving Account, Millville S & L	895.74	
Principal Cash	<u>49.77</u>	<u>1706.12</u>

TOTAL, HOLLY RESEARCH FUND

6539.07

**REPORT OF THE INTERNATIONAL
HOLLY CHECKLIST COMMITTEE**

**Mr. Gene Eisenbeiss
U.S. National Arboretum
Washington, D.C. 20250**

The checklist committee has had more than the usual obstacles this year. We temporarily lost the services of our secretary at the National Arboretum as she resigned. Due to personnel reclassifications and budget restrictions, her position will not be immediately reinstated. Also, the members of the checklist committee were asked by the American Horticultural Society and the Holly Society of America to assist in the preparation of the revised *Handbook of Hollies*, and had departmental approval to do so. The checklist committee spent a considerable amount of time over the last 10 months accumulating new and unpublished information for use in the revised *Handbook of Hollies*. As a result of this activity, the committee has not accomplished a great deal towards completion of the checklist. However, work has not stopped on the checklist. The committee will soon submit a manuscript of the *Ilex opaca* section of the checklist for publication as one of the Contributions of the National Arboretum Series. The *I. opaca* section will constitute about 1/3 of the total checklist. We would prefer to publish the complete checklist as an entity, but due to the antici-

pated continued budget and personnel restrictions it behooves the committee to process publication expeditiously. Work will actively continue on the checklist, and remaining sections of the manuscript will be prepared for publication as soon as possible.

Respectfully submitted,
Gene Eisenbeiss, Chairman
T. R. Dudley

REPORT OF THE HOLLY REGISTRATION COMMITTEE

Registrations accepted to date for the calendar year 1970 include:

Reg. No.	Description
1-70	<i>I. opaca</i> 'Governor William Paca' Laurance S. Brigham Registered March 3, 1970. Previously published in Holly Letter No. 36 p. 9. March 1970.
2-70	<i>I. x koehneana</i> 'Lassie' Stewart H. McLean, 9010 Satyr Hill Road, Baltimore, Maryland 21234. Registered, October 14, 1970. A putative hybrid of <i>I. (aquifolium x latifolia)</i> discovered as a volunteer seedling 1962 in McLean Nursery, Baltimore, Maryland. Selected and named by S. H. McLean as a desirable female companion to the male <i>I. x koehneana</i> 'Chieftain', also a McLean selection. The habit is pyramidal with horizontal branching; growth is vigorous. Leaves are large, 3½" to 4" long and 1¼" to 1½" wide, flat, broadly lanceolate with numerous small, forward pointing spines. The fruit is red, smaller than <i>I. aquifolium</i> , but larger and more glossy than <i>I. latifolia</i> , and borne singly on short pedicels.
3-70	<i>I. opaca</i> 'Satyr Hill' Stewart H. McLean, 9010 Satyr Hill Road, Baltimore, Maryland 21234. Registered October 14, 1970. Originated as a volunteer seedling in McLean Nursery, Baltimore, Maryland and selected in 1960. The original plant of this clone is dead. The plant registered was propagated from a cutting in 1960 and is 9' tall and 9' wide. It is of vigorous growth, with a compact upright habit. The leaves are broadly oval to obovate and are exceptionally rounded at the tip. The blades are flat, slightly keeled, and the veins are prominently depressed above. Spines are of moderate size, 5-6 on

each side. The fruit is large, 5/16" to 3/8" in diam., generally rounded to slightly oblate, and borne singly on pedicels to 3/8" long. They are well spaced, and ripen in late October in Baltimore. It is outstanding in vigor and leaf quality compared to others in the large collection of *I. opaca* cultivars in McLean's Nursery. It is named for the road where McLean Nursery is located.

4-70	<i>I. crenata</i> 'Miss Muffet' Norman H. Cannon, RFD 1 Box 265A Greenwood, Delaware 19950. Registered October 26, 1970. Originated as an open pollinated seedling of <i>I. crenata</i> 'Convexa' and is a sister seedling to <i>I. crenata</i> 'Sentinel' Reg. No.3-63. It was selected by Mr. Cannon from a group of 5,000 plants grown in 1955 at Bridgeville, Delaware. The habit is low, compact, twiggy, dwarf and mound like. The leaves are small, elliptic, and flat. The original plant, now 15 years old, is 19" tall and 40" wide, attesting to its dwarf and mound like habit.
5-70	<i>I. verticillata</i> 'Maryland Beauty' C. L. Jenkins & Sons Inc., 3601 Mitchellville Road, Mitchellville, Maryland 20716. Registered October 28, 1970. Originated as a seedling obtained about 1930 from Dreer Nursery, Riverton, New Jersey. It was selected in 1940 and named in 1968 by Jenkins & Sons. The original plant is dead. The plant registered is 10 years old, 5' tall and 7' wide and has been sheared heavily for many years. The fruit is shiny dark red, large and is tightly clustered around the full length of the fruiting branches. Fruit ripening is early, typically in September in Maryland. This clone was selected as outstanding for heavy bearing of good quality fruit and is used by Jenkins Nursery for commercial cutting for spray marketing. Since the time selected, it has remained superior for commercial cutting to all clones tested for this purpose by Jenkins & Sons.
6-70	<i>I. verticillata</i> 'Christmas Gem' C. L. Jenkins & Sons Inc., 3601 Mitchellville Road, Mitchellville, Maryland 20716. Registered October 28, 1970.

Originated as a seedling obtained about 1960 from Gulf Stream Nursery Wachapreague, Virginia. It was selected in late 1968 and named in 1970 by Jenkins & Sons. The original plant is 5' tall and 8' wide and has been sheared heavily for several years. The fruit is bright shiny orange-red, of moderate size and slightly elongate. This clone was selected for its vigorous growth, consistent heavy fruit bearing and particularly for its orange-red fruit color. Cut sprays have been marketed successfully along with *I. verticillata* 'Maryland Beauty'.

- 7-70 *I. crenata* 'John Nosal'
Matthew A. Nosal, Box 55A, Calverton New York 11933. Registered November 12, 1970.

Discovered as a chance seedling in a block of Japanese holly in 1939 by John Nosal at Nosal's Holly Nursery at Little Neck, Long Island, New York. The original plant was 5½' tall and 1½' wide at the time it died in 1959. Propagations of this plant have been in production since 1957.

This dwarf male clone is columnar in habit with fastigate branching. The leaves are very small, ¾" long and 3/8" wide, elliptic to oval, entire, sometimes with 1-3 minute crenations on each side. Leaves on older branches are somewhat broader and more rounded at the tip.

- 8-70 *I. aquifolium* 'Robert Brown'
Matthew A. Nosal, Box 55A, Calverton New York, 11933. Registered November 12, 1970.

Originated in 1930 from seed from Cottage Gardens Nursery, Eureka, California, and grown at Nosal's Holly Nursery, Little Neck, Long Island, New York. Selected by Edward Nosal from among 10 of 500 seedlings that survived -20°F. at Little Neck, New York during the winter of 1933-34. Introduced before 1960. *I. aquifolium* 'Cottage Queen' and *I. aquifolium* 'Virginia Nosal' are of the same origin.

Ilex aquifolium 'Robert Brown' has a conical habit and at 40 years of age is 18 feet tall and 10 feet wide. The young twigs are green and slightly pigmented purple on one side. The leaves are acuminate at the base with long, light green petioles. The leaf

blades are dark green with good gloss. Spines are generally even-sized on very wavy leaf margins and are usually very long pointed. There is considerable variation in number of spines between leaves. This male clone is reported to be a good pollinator.

- 9-70 *I. aquifolium* 'Virginia Nosal'
Matthew A. Nosal, Box 55A, Calverton New York 11933. Registered November 12, 1970.

Originated in 1930 from seed from Cottage Gardens Nursery, Eureka, California and grown at Nosal's Holly Nursery at Little Neck, Long Island, New York. Selected by Edward Nosal from among 10 of 500 seedling that survived -20°F. at Little Neck, Long Island, New York during the winter of 1933-34. Introduced before 1960. *I. aquifolium* 'Cottage Queen' and *I. aquifolium* 'Robert Brown' are of the same origin.

Ilex aquifolium 'Virginia Nosal' has a broad conical habit and at 40 years of age is 15 feet tall and 12 feet wide. The young stems are strongly pigmented purple. The leaves are very large with extremely variable sized, often with strong, divaricate spines, but are sometimes spineless. The leaf color is dark green with a very good gloss. The fruit is pyriform, dark red and in clusters of 6 fruits per cluster.

- 10-70 *I. aquifolium* 'Cottage Queen'
Matthew A. Nosal, Box 55A, Calverton New York 11933. Registered November 12, 1970.

Originated in 1930 from seed from Cottage Gardens Nursery, Eureka, California and grown at Nosal's Holly Nursery at Little Neck, Long Island, New York. Selected by Edward Nosal from among 10 of 500 seedlings that survived -20°F. at Little Neck, New York during the winter of 1933-34. Introduced before 1960. *I. aquifolium* 'Robert Brown' and *I. aquifolium* 'Virginia Nosal' are of the same origin.

Ilex aquifolium 'Cottage Queen' has a broad conical habit and at 40 years of age is 12' tall and 10' wide. The young twigs are green. The leaves are dark, dull green and variable in size with numerous variably sized long finely pointed spines. Spines are more frequent on the upper half of the leaf

margins that are irregularly wavy. The fruit is pyriform, dark red, borne on pink pedicels and in clusters of 6 fruit per cluster.

In an effort to stimulate registration interest and to obtain some publicity for the Holly Society, the Registration Committee sent out notices last Spring of the change in place of registration of new holly cultivars, from Rutgers to the National Arboretum. Notices were sent to 30 prominent horticultural and botanical publications here and abroad, notably England, France, Netherlands, and Germany. About 20 of these publications printed this notice. To date no applications for registration have been received as a result of these notices. However, 2 inquiries resulted, one from England and one from France. Both were about culture and propagation of hollies. With our replies, we enclosed Holly Society membership applications.

Respectfully submitted,
Gene Eisenbeiss, Registrar
T. R. Dudley
E. R. Orton, Jr.

REPORT OF HOLLY HANDBOOK REVISION COMMITTEE

A year ago, at the annual meeting held in Richmond, Virginia, I reported that the *Handbook of Hollies* (1970) was under way, with some manuscripts in hand and already edited. Work continued from then until the revised page-proofs were sent to the printers on October 6. Publication has been promised by Monumental Printing Co. before the American Horticultural Congress on November 1 and the forthcoming annual meeting of this Society on November 3, and as I write this report on October 24, I anticipate that the publication date will be met.

Editing the revised edition of the *Handbook of Hollies* has been an interesting and stimulating experience; one, however, with unforeseen trials and tribulations of which the trustees have been fully aware and sympathetic.

The Holly Handbook Revision Committee is most appreciative of the untiring and valuable assistance rendered by Theodore R. Dudley and Gene K. Eisenbeiss as technical editors, of the fine cooperation from the contributors to the 1957 edition who reviewed and updated their text for the 1970 edition, of the fine cooperation from the several new contributors to the 1970 edition. It also appreciates the cooperation of those who furnished photographs or colored slides from which black and white prints were made for illustrations, and of those who researched and located helpful information on perplexing questions.

The Committee hopes that the members of the Holly Society of America and the members of the American Horticultural Society, with which the former Society cooperated in the preparation and publication of the *Handbook of Hollies*, will find it a useful source of information on the various hollies, their culture, and their uses.

The report of the Committee is brief -- to allow the *Handbook of Hollies* (1970) to speak for itself.

Respectfully submitted,
Dorothy E. Hansell, Chairman

REPORT OF COMMITTEE ON PUBLICITY

Harry William Dengler

Extension Forester, Retired
Department of Horticulture
University of Maryland
College Park, Maryland

Your chairman was notified of his selection to head this committee by letter dated January 10, 1970. This came as a complete surprise, especially in view of the fact that he was contemplating retirement and the task of "cleaning up" after 27 years of work with the University of Maryland Cooperative Extension Service was not to be an easy one. Since announcement of the members of this group was to be made in the February 1, 1970 issue of the *Holly Letter*, he felt obligated to accept this assignment to the best of his abilities under somewhat trying circumstances.

The items that follow are in the nature of publicity. Some are the results -- directly or indirectly -- by members of this committee. Others are not, but are included for the record and that they might hopefully serve as examples for members of the Holly Society in the field of education, community service and publicity.

News Articles:

"*Beautiful Holly For The Holidays Produced In Eastern Shore Orchard.*" The Daily Times, Salisbury, Maryland, December 23, 1969. This is an account of William C. Baumann's holly orchard. A similar story has been planned by the Baltimore Sunpapers, December 1970.

"*These Holly Trees,*" The News Leader, Laurel, Maryland, September 17, 1970. An account of large and interesting hollies in Maryland.

"*Holly Trees Suffer From The Weather,*" Baltimore Evening Sun, Baltimore, Maryland, October 29, 1970. Self-explanatory; includes details on our 47th meeting here this week.

Magazine Articles:

"*Holly Pests Discussed at Richmond Convention*," American Nurseryman, Chicago, Illinois, December 1, 1969. A report of the society's 46th meeting at Richmond, Virginia, October 21-24, 1969.

"*West Virginia Holly*," West Virginia Wildlife, December 1969. An account of hollies in West Virginia by Dr. Maurice Brooks of West Virginia University.

"*Hollies For The Holidays*," to be published in the December 1970 issue of American Forests magazine. A bit of folklore and "potpourri" on hollies by your chairman. Will include six color pictures on two pages selected among slides contributed by: Dr. Robert Baker, College Park, Maryland; Ambrose Brownell, Milwaukie, Oregon; Gene Eisenbeiss, Washington, D.C. Fred Galle, Pine Mountain, Georgia; J. K. Lilly, III, West Falmouth Massachusetts; Dr. A. N. Roberts, Corvallis, Oregon; Arnold F. Schultz, Elkins, West Virginia; Stewart H. McLean, Baltimore, Maryland; and Dr. Sigmond Solymosy, Lafayette, Louisiana. Sincere appreciation is hereby expressed to those above for the kindness in the loan of their slides, which totaled well over 100. I am glad that the responsibility of selecting six of these for use was that of the magazine editors and not that of your chairman.

Copies of the December 1970 issue of the American Forests may be obtained at 50 cents per copy from the American Forestry Association, 919 Seventeenth Street, N.W., Washington, DC 20006.

Special Events

At a banquet honoring members of the Maryland State Legislature by the Maryland State Board of Agriculture, University of Maryland, College Park, Maryland, at Upper Marlboro, Maryland, February 19, 1970, those present were given gifts of Maryland agricultural products. The most popular item was a small, potted "self-fruitful" American holly from the Maryland Nurseryman's Association. Over 400 individuals attended this affair.

Maryland Arbor Day - April 1, 1970

The National Agricultural Library, U. S. Department of Agriculture, Beltsville, Maryland, observed this date and its first birthday in new quarters with the ceremonial planting of a holly tree. The staff and number of visiting librarians from foreign Embassies participated in the one-hour program which included a brief account of the hollies.

The Washington, DC Branch, National Association of Professional Gardeners, presented a holly tree for planting at the Brookside Botanic Garden and Arboretum, Wheaton, Maryland, a new facility of the Maryland-National Capital Park and Planning Commission.

Both hollies above were gifts of the U. S. National Arboretum.

Your chairman also presented a five-foot American holly to the Wheaton Arboretum. This was the yellow-fruited cultivar, 'Dengle Belles', named for his three daughters some years ago by J. D. Rankin, Salisbury, North Carolina. The donated plant was one originally given him by Mr. Rankin.

Observances of Arbor Day by individual states is slowly but steadily reviving. Gift presentations of hollies to churches, schools, parks, arboreta, etc., on these dates by society members can result in fine local publicity. The plants can be in memory of departed friends or relatives or in honor of someone meriting recognition; or, of course, donated just for the "fun-of-it" -- the glow of personal satisfaction in so-giving is beyond description. Your chairman will be happy to provide specific dates of Arbor Day for individual states upon receipt of a self-addressed, stamped card.

"*Giving A Talk About Hollies?*", by Anthony R. Gould, 47th Meeting. This subject and speaker were specifically suggested to the Meetings' Committee to show how relatively easy and simple it is for any society member to present "the holly story" before local civic, service and garden clubs. This is the finest type of publicity and the subject of special interest and timeliness during late November and early December. Consult the folklore parts of the *Holly Handbook* and the December 1970 issue of *American Forests* for background information.

Congratulations to:

All Holly Society Chapters for their fine efforts in promoting interest in holly at local levels.

John H. Gruver and his "Big Tree Committee" for perseverance in following-up all leads in locating, measuring and recording large hollies. Big trees are a fascinating subject to many and most newspapers are anxious to have accounts of old trees found locally and of some historic interest.

Dr. Charles W. Dunham, chairman, and his 47th Meeting Committee, for a superb and well-balanced program. The selection of topics was an excellent one and made the work of publicizing this affair considerably easy.

Mrs. Dorothy E. Hansell, and her Editorial Committee, for the difficult task in revising the *Handbook of Hollies*. This joint venture with the American Horticultural Society should result in much favorable publicity to the Holly Society of America for many years to come.

Our Appreciation to:

Fred K. Kilner, editor, American Nurseryman, Chicago, Illinois, for the fine coverage given to meetings of the society spanning a period covering more than 20 years.

T. Milton Nelson, Associate Editor, Agricultural Publications, University of Maryland Cooperative Ex-

tension Service, College Park, Maryland for the preparation of a news release concerning the 47th meeting and weekly newspapers in Maryland and Washington, DC. Also, for his mailing of copies to the Agricultural Extension Editors of Delaware, New Jersey, New York and Pennsylvania accompanied by personal notes suggesting that they give similar publicity via radio and newspapers in their respective states. This was followed up by your chairman with personal letters to the Extension Foresters and/or Extension Ornamental Horticulturists of these same four states in soliciting their cooperation also.

This committee is pleased to announce that this is an innovation in publicizing our meetings. And, one that can obtain the greatest amount of radio and news coverage in the future with the least expenditure of effort by the Holly Society.

A Suggestion:

Those in charge of the Holly Sprig and Arrangements' Contest are to be most highly commended for staging truly beautiful and interesting affairs. The work and worry involved must be considerable and all concerned merit well-deserved compliments and congratulations.

It is to be deplored, however, that these exhibits have generally been set up in some out-of-the-way area to be seen mostly by society members only. No signs, for example, have ever appeared to our knowledge in the lobbies of our meeting places to indicate that these displays exist and were open to the public at no charge. Here is a fine opportunity that has been neglected in publicizing holly, plus the society, and its objectives as well.

We suggest, therefore, that at future holly meetings, special efforts be made for suitable directional signs, and that local publicity be prepared extending invitations to anyone interested in attending at specific times. Often, all that is necessary with local publicity is a phone call or two to the garden editor of the newspaper or news director of the nearest radio station.

Your committee cordially invites comments, ideas and suggestions.

Respectfully submitted,
Mrs. U. B. Evans
Anthony R. Gould
John Wieman
Harry Wm. Dengler, Chairman

REPORT OF AUDIO-VISUAL AIDS COMMITTEE

Since our last annual meeting, the Audio-visual Aids Committee has accumulated 2 x 2 colored slides from Oliver Diller, J. Bon Hartline, Larry Livingston and Jack Robinson. We are in the process of cataloging them so that programs may be developed for any requests we may receive.

We have loaned slides to Bon Hartline for a talk, sent the hedge collection on loan to a non-member, and are presently selecting slides and preparing information to fill a recent request from Oklahoma.

Slides from the collection have been selected by Mrs. Dorothy Hansell for use in the revised Holly Handbook which she is editing. We have also submitted 12 slides to the Encyclopedia Britannica for consideration and have been advised that one or two of them will be used in the future.

We regret that we have not heard from more of our members. We know there are many photographers in the membership and we would like to be able to report next year that certain programs have been developed and are available for use.

Respectfully submitted
Paul K. Reiniger, Chairman

REPORT OF THE BIG TREE COMMITTEE

Mr. John H. Gruver
4322 12th Street
St. Simons Island, Ga. 31522

It is a pleasure for this Committee to report the following matters:

1. The article on "Big Hollies" published in the August, 1969, "Holly Letter" was reprinted in "Plants and Gardens," winter 1969-70 issue, the official publication of the Brooklyn Botanic Gardens. Black and white prints of two large hollies were included.

2. The part of the article on "Big Hollies" referring to the giant holly in St. Marys County, Maryland was printed in the "Chronicles of St. Marys," Vol. 17, No. 11, November, 1969.

3. An article "The Southlands Largest Holly Trees" has been written by the Chairman of this Committee. It has not been published as of this date.

4. On January 29, 1970 Society member Shelby H. Jarman, Salisbury, Maryland advised that the William Penn holly in Wicomico County, Maryland, which has been marked by a bronze plaque, is now dead.

5. In April, 1970, Mrs. Marjorie J. Dietz, Editor of "Plants and Gardens" of the Brooklyn Botanic Gardens stated that the holly on the C. E. Dimon farm, Southampton, Long Island, is dead. She wrote, "Apart from old age, the tree was given a near-fatal blow a few years ago when it was hit by the drift from a chemical being sprayed on nearby potato field."

6. New discoveries:

By Jackson Batchelor, Committee member, a berried tree at Claremont, Virginia of an estimated 130" circumference, 65' high, and 35' spread.

Additional large trees:

- a. New State Champion at Fitzgerald, 109" circumference, 46' high, 61' spread. Berried. Article with 4-column illustration in "Atlanta Journal," September 3, 1970. 8 x 10 black and white print and 35 mm color slides are being obtained.
- b. A 125" circumference tree at Warner Robins. 46' high, 28' spread. More information has been requested at this time.

A large holly in Calloway County, Kentucky. 94" circumference, 46' high, 38' spread. Largest known in the State. Information from Division of Forestry.

Other leads are presently being followed up.

In all cases publicity for the holly society was stressed.

Respectfully submitted,
Mr. John H. Gruver, Chairman

REPORT OF THE ARBORETUM COMMITTEE

Dr. Oliver D. Diller
Professor Emeritus
The Ohio Agricultural Research and
Development Center
Wooster, Ohio 44691

At their April 9, 1964 meeting, the Trustees of the Holly Society of America outlined the duties of the several committees. Their statement concerning the Arboretum Committee is as follows: "The arboretum committee shall assist in every feasible manner the establishment of plantings of *Ilex* in public and semi-public gardens and arboretums whenever the committee believes the interest of the Holly Society will be furthered,"

The Trustees of the Holly Society of America, Inc. have designated nineteen (19) Official Holly Arboretums and four (4) Experimental Holly Test Centers representing two in Plant Hardiness Zone 5b, three in Zone 6b, seven in 7a, three in 7b, one in 8a, and three in 8b. The four Official Experimental Holly Test Centers are located in Zones 5b, 6b and 7b. These are listed on page 325 of the 1970 *Handbook of Hollies*.

The present Arboretum Committee consists of four members, namely, Fred C. Galle, Director, Ida Cason Callaway Gardens, Pine Mountain, Ga.; Joseph W. Oppe, Director, Scott Horticultural Foundation, Swarthmore College, Pa.; Ambrose Brownell, Milwaukee; Oregon; and Oliver D. Diller, Professor Emeritus, Ohio Agr. Res. and Dev. Center, Wooster, Ohio, Chairman.

No applications have been received for additional holly arboretums during 1970. However, a few changes in persons acting as liaison have taken place and noted. The chairman has written to the directors of all official holly arboretums and test centers requesting a progress report and an up-to-date list of all the hollies in their respective collections. To date, replies have been received from the directors of eight arboretums, seven of whom submitted a listing of their species, hybrids, and cultivars. These lists will be published in a future issue of the *Holly Letter*.

During the coming year it is hoped that applications for additional holly arboretums will be received for consideration by the committee.

Respectfully submitted,
Oliver D. Diller
Chairman

COMMITTEE ON USE OF MULCHES

Merritt I. Taylor
8220 Brookfield Road
Richmond, Virginia 23227

Experiments indicate that mulch is the catalyst which increases growth and berry set and improves leaf color. It has a surprisingly interrelated cause and effect reaction. Just as insufficient liquids affect the health and well-being of humans so adequate mulch makes the difference between optimum growth and mere existence. The advantages of mulch are particularly noticeable with English holly in hot dry areas where high temperatures and drought prevail. Plants of *Ilex cornuta* thrive with mulch, and plants of *I. opaca* grow luxuriantly.

If moisture, air, nutrients, sunlight and temperature were present in proper quantity and range it would only be necessary to cut holly for Christmas; it is because we do not have outdoor greenhouse weather that adequate mulch is essential. I believe that a complete analysis of the subject would show that mulching is practical from a commercial standpoint.

Many growers put a road block in their thinking about mulches because some mulches attract mice to the root area. There are three practices which lesson mouse damage: clean cultivation or sowing grass and mowing is one; poison control is another; thirdly, rodent activity can be discouraged by incorporating gravel into the root area of the plants.

Any cultural practice which doubles the rainfall available for plant growth is worthy of serious consideration. Mulch accomplishes this by reducing losses due to evaporation and runoff. Numerous authorities agree that one-half of the rainfall evaporates, whereas another twenty-five percent is lost as runoff. This leaves a meager twenty-five percent for

November 3, 1970

growth. An adequate mulch more than doubles the moisture available for plant growth. In addition, mulch lowers the soil temperature ten degrees or more, increases biological activity, lengthens the growing period, and helps reduce weed growth.

Any material which provides an insulating barrier of tiny air pockets and permits the rain to seep through meets the fundamental requirements for a satisfactory mulch. At the same time, the cost and availability of a particular product are determining factors in the selection of mulching materials.

Pine tags, ground bark, gravel, sawdust and leaves all have limiting factors. In my experience, eight to twelve inches of wood chips make the best mulch. Material and labor costs are reduced because wood chips will perform as an insulator for about 3 years before breaking down.

The worse drought since 1941 has just ended in the Richmond area. All my established hollies came through without apparent injury indicating that mulch is the answer for the grower who does not irrigate.

If the benefits of an adequate mulch were properly evaluated, I feel certain the demand for such products would justify commercial production, thereby increasing availability.

REPORT OF SOCIETY HISTORIAN

Frank L. Suplee, Jr.
220 University Blvd.
Glassboro, N.J. 08028

November 3, 1970

Mr. Daniel G. Fenton, President
Holly Society of America, Inc.

Dear Mr. President:

One additional scrapbook has been acquired to receive the clippings and other publications relative to holly received by the historian. Clippings have been received during the year from a number of sources and it will be of much help if the Members of the Society will forward clippings or photocopies of clippings for inclusion in this book.

Three Holly Society scrapbooks have been brought to this meeting and are available for members use.

A report on "Charter Members of the Holly Society of America" has been prepared in accordance with a request and it is the subject of a separate letter, also dated November 3, 1970 attached hereto.

Respectfully submitted,
Frank L. Suplee, Jr.
Historian

Mr. Daniel G. Fenton, President,
Holly Society of America, Inc.

Subject: Charter Members
Holly Society of America, Inc.

Dear Dan:

At the summer meeting of the Trustees of the Holly Society Friday, July 24, 1970 in Millville, N. J. you requested that I conduct a study to determine the names of the Charter Members of this Society.

At that time you made available to me several albums of material assembled during the early years of this Organization. I have reviewed this material and established a list of names appearing in the newspaper clippings, photographs, letters, notices of meetings and minutes of meetings in an endeavor to identify all persons having a relationship with the Society during its founding period.

The dictionary definition of a "Charter Member" was kept in mind: i.e. "One of the original members of a society or corporation, especially one named in a charter." The very nature of the founding of this organization precluded it having a charter *per se*, it being the pioneer in this field.

A letter to "Dear Holly Friend" dated September 5, 1947 from Harry W. Dengler, Vice-President of the Society stated "On June 24, 1947, the five trustees met at the office of Mr. C. R. Wolf. All five trustees approved and signed the Articles of Incorporation of the Holly Society of America under the laws of the State of New Jersey." These five trustees were: Mr. C. R. Wolf, Mr. Harry W. Dengler, Mr. Charles A. Young Jr., Mrs. Charles A. Young Jr., and Mr. Daniel G. Fenton.

This date of June 24, 1947 establishes a firm beginning of the Society as an incorporated body.

September sixth I met with you regarding this matter of Charter Members. At that time you explained to me that at the 1948 Spring Meeting of the Society it was agreed that all persons who joined the Society on or before November 12, 1948 the date of the Annual Fall Meeting of the Society, were to be considered "Charter Members." This established the fact that we are now dealing with those members who joined the Society during the period June 24, 1947 to November 12, 1948 both dates inclusive.

You reviewed the list of names I had assembled, deleted those known by you not to have been members of the Society during the time in question, and added names known by you to have been members during that time.

Having determined the cut-off date of "on or before November 12, 1948" for eligibility for Charter

Membership it was agreed that the records of the Secretary-Treasurer must be involved to satisfy the requirements of this date.

I have written to Mr. Bluett C. Green, Secretary-Treasurer of the Society and advised him of this course in the study. Mr. Green has agreed to search his files to seek any additional eligible names.

In the meantime, I have prepared a list showing sixty-three names which list has been identified as a "List of Charter Members of the Holly Society of

America, Inc." Understandably it is very desirable that no name be omitted that should be included in this important phase of the Society's history.

I would suggest that these names be considered as a tentative list of Charter Members for a length of time to be determined by the Board of Trustees to permit the inclusion of additional names if indicated.

Respectfully,
Frank L. Suplee, Jr.
Historian

CHARTER MEMBERS OF THE HOLLY SOCIETY OF AMERICA, INC.

1. Avery, Dr. George S. Jr.
2. Batchelor, Jackson M.
3. Boothe, T. H. B.
4. Bosley, Paul R.
5. Britt, C. S.
6. Brown, Thomas
7. Brownell, Ambrose
8. Clark, Robert B.
9. Connors, Dr. Charles H.
10. Cooper, J. Alan
11. Corson, Lillian D.
12. Cox, Dr. C.
13. Cox, Harry R.
14. Davidson, Dr. O. W.
15. Dengler, Harry Wm.
16. Dilatush, Earle, R.
17. Fenton, Daniel G.
18. Frierson, Rev. William C.
19. Fulton, Maynard M.
20. Gravatt, Dr. G. F.
21. Hamilton, Dr. Clyde C.
22. Hess, Charles Sr.
23. Hicks, Henry
24. Hohman, Henry
25. Howell, George H.
26. Hughes, Carleton
27. Hume, Dr. H. Harold
28. Jones, Daniel J.
29. Keyser, R. C.
30. Lawson, William C.
31. Legg, W. C.
32. McLean, Stewart H.
33. McNair, John W.
34. McNair, Mrs. John W.
35. Malmborg, Gustof E.
36. Marcellus, Gilbert L.
37. Mattoon, H. Gleason
38. Meehan, T. Mendelson
39. Meserve, Mrs. F. Leighton
40. Nearing, Dr. G. Guy
41. O'Rourke, F. L.
42. Pirone, Dr. P. P.
43. Ricker, Dr. P. L.
44. Sanders, Herbert G.
45. Shaw, Edward
46. Shultz, Dr. Joseph L.
47. Skinner, Henry T.
48. Steiner, Wilmer W.
49. Symons, Dr. T. B.
50. Thatcher, Mrs. A. B.
51. Thompson, Clarence R.
52. Vail, June M.
53. Wheeler, Wilfred
54. White, Elizabeth C.
55. White, Henry H.
56. Wick, Stewart A.
57. Williams, Howard J.
58. Wister, John C.
59. Wolf, Clarence R.
60. Wolf, C. Franklin
61. Wolf, David O.
62. Wyman, Dr. Donald
63. Young, Charles A., Jr.
64. Young, Mrs. Charles A., Jr.

HOLLY SPRIG AND ARRANGEMENT CONTEST

The 47th meeting of the Holly Society of America was the scene of the largest and most competitive Holly Sprig and Arrangement Contest ever sponsored by the society.

In the amateur competition, twenty persons entered a total of 123 sprigs. Five persons placed 60 entries in professional competition. An appreciable number of educational displays, as well as a record number of floral arrangements featuring holly, were exhibited by members of the society.

The names of the winners in each class are presented below. The sprig competition was judged by William Kosar, Gene Eisenbeiss, and Elwin Orton, Jr. The arrangements were judged by Helen McLean and Grace Wilson.

Amateur Competition

Holly Arrangements

- 1st Edith Rieder
- 2nd Pauline Raibourne
- 3rd Rachael Davis

Ilex opaca

- 1st Tom Potts
- 2nd Sidney J. Kincer
- 3rd Gordon Wilbur

Ilex aquifolium

- 1st Edith N. Rieder
- 2nd Mrs. Julian Hill
- 3rd Edith Rieder

Ilex crenata

- 1st Sidney V. Burns
- 2nd Loraine Riker
- 3rd Helen Potts

Ilex cornuta

- 1st Mrs. Julian Hill
- 2nd Edith N. Rieder
- 3rd None awarded

Deciduous Hollies

- 1st Gordon Wilbur
- 2nd Helen Potts
- 3rd None awarded

Miscellaneous Grouping

- 1st Anthony Gould
- 2nd Helen Potts
- 3rd Tom Potts

Interspecific Hollies

- 1st Sidney V. Burns
- 2nd Sidney V. Burns
- 3rd Tom Potts

Award for Most Points in Amateur Competition

Sidney V. Burns

Professional Competition

Ilex opaca

- 1st Setwart H. McLean
- 2nd Stewart H. McLean
- 3rd Sassafras Farm

Ilex aquifolium

- 1st Setwart H. McLean
- 2nd Stewart H. McLean
- 3rd Stewart H. McLean

Ilex crenata

None awarded

Ilex cornuta

- 1st Stewart H. McLean
- 2nd Sassafras Farm
- 3rd None awarded

Deciduous Hollies

- 1st Stewart H. McLean
- 2nd Stewart H. McLean
- 3rd None awarded

Miscellaneous Grouping

- 1st Stewart H. McLean
- 2nd J. Bon Hartline
- 3rd Stewart H. McLean

Interspecific Hollies

- 1st William F. Kosar
- 2nd Stewart H. McLean
- 3rd J. Bon Hartline

Award for Most Points in Professional Competition

Stewart H. McLean

Sweepstakes Award

(Most winning entries in Show)

Stewart H. McLean

FOR YOUR PERSONAL HOLLY NOTES