

## FRIDAY MORNING SESSION

November 22, 1957

The session convened at 9:10 o'clock, President Vanderbrook presiding.

PRESIDENT VANDERBROOK: Please be seated, gentlemen. I am pleased to state that we have a higher registration this year than we have had for a long time. We have a total registration of 180, which I believe is a figure we have never reached in our meetings before.

If Fred Galle is in the room and is ready to proceed, I will be glad to have him come up here, take over the gavel and give you the first presentation of the morning session

Dr. Fred Galle took the chair.

CHAIRMAN GALLE: (Ida Cason Gardens, Chipley, Georgia): As you will note from the program, I am going to pinch-hit for Henry Orr, who could not be here. He did, however, send a good deal of the material I have to show you this morning. I am going to try to give you an idea of some of the things that are going on in the South in regard to propagation and ornamental plant selection

Dr. Galle presented his paper entitled, "A Survey of Broadleaf Evergreens Deserving further Consideration." (Applause)

### A SURVEY OF BROADLEAF EVERGREENS DESERVING FURTHER CONSIDERATION

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The basic problems of propagation whether in the North or South are essentially the same. We have the problem of controlling the water, light, temperature and other factors which are requisites to good propagation results. Many erroneously think that all we have to do is throw cuttings on the floor or the ground and they take root. We think the same thing of the people up North. We have no easier problem than you do. In fact, we all have problems. They may be with different materials but we still have all the same problem, that is, trying to get roots on the basal end of the cutting. We do perhaps have a longer growing season than some people and milder climates, although sometimes our milder climates can be quite varied, because of the ups and downs in temperature. I think in my own section, for example, we have already had colder temperatures than you have had in Cleveland. We had 25 degrees about three weeks ago and before I left it was 70 degrees again. These ups and downs in temperature can sometimes be as hard to work with as a more uniform, colder climate. I think we have more sunlight. In some areas we have a higher humidity, although it is not a universal condition all over the area.

Propagation structures in use are quite varied. As you get down into the Mobile area they are still using greenhouses as basic structures

for plant propagation. There are still many new greenhouses being constructed. Although the newer operations have gone to mist propagation there are many of the old structures still being used, and used very satisfactorily. With mist propagation there is a trend favoring the rooting of cuttings in flats which permits easy movement from the mist bed into the hardening-off bed. There is also a trend toward the shading of the mist bed. Propagators are covering the beds with Saran and other similar type materials. Many plastic houses, of course, are going up. We do not have the problem of the snow and ice that is common to some other areas, although we still have the high winds that can tear the plastic. In some areas they are covering the plastic houses with Saran cloth in order to increase the life of the plastic.

One other type of propagation that I think some of you are familiar with is the open field propagation common to a few sections of the South particularly around Athens and Huntsville, Alabama, and around Memphis, Tennessee where they are putting hardwood cuttings of conifers directly into the field. I think the Chase Nursery Company was doing this some ten years ago, and have steadily increased it until today, with the use of supplemental irrigation, it is an important phase of their propagation program. With irrigation they have a better control of their environmental conditions. It is quite a sight to see five or ten acres of hardwood cuttings stuck out in the fall of the year. These are grown under irrigation throughout the winter and early spring, and usually dug the following fall.

There are a large number of lath houses used throughout the South. They are used primarily to regulate humidity, and to reduce temperatures and light intensities. The type and construction varies considerably since we don't have to worry about the heavy ice and snow that might form. There has been increased use made of lath houses equipped with mist. In some cases the sides of the lath house are enclosed with plastic, leaving it exposed only at the top.

The media we use are very similar to those used elsewhere. There is perhaps more use made of media that have a higher water-holding capacity, which is necessitated by our higher temperatures. Cinders, even shavings and sawdust are sometimes mixed with the media in various areas. Liquid feeding is standard practice now in the later periods of rooting and for carrying over plants in lath houses or in beds.

Our plant material is perhaps somewhat different. However, before I discuss plant materials I would like to suggest that sometime a period should be spent with the people introducing new plant materials. There is the old problem of saying that the landscape people aren't going to use new introductions. However, they are not going to use them unless you have them available. It is the propagator who is the essential link in this important chain. I think we need to try new plant materials regardless of what area we are in. If everyone would propagate and grow one or two new plants it would mean a lot to the industry all over the country. I think that in testing plants oftentimes we give up too quickly or draw hasty conclusions. Many times we do not understand the requirements of a particular plant and after a brief test discard it for one reason or another. Actually, you should test at

least three plants of a particular selection over a period of three to five years. If you lose them the first year, try again another year. Although hard to believe, there is considerable variation in climate even within rather restricted areas. In these areas you can do a great deal more with selected plant materials by understanding the various climatic conditions and the requirements of the plant. In Cleveland, for example you have isolated areas that are mild as well as situations on top of a ridge that is perhaps extreme. This is true regardless of what section of the country you are in. In these macroclimatic conditions you can perhaps introduce materials that have never been tried before. They may have a limited use, but it is still a way to introduce new material to different areas.

I think there has been a great deal of interest in the use of the camellias, *Camellia japonica* and *Camellia sasanqua*. Dr. Zimmerman of the Boyce Thompson Institute has reported on the hardiness of camellias. If I were to have had the privilege of giving him an opinion of what camellias to grow, I certainly never have recommended the plant which he has found satisfactory. It is difficult to believe that some of the plants that he is actually finding and proving to be hardy in his area are things that would not grow even in my own section of the country. When we think of growing camellias we select either the very early or very late types. We would not grow a mid-season one, although they actually are grown 50 miles southwest of Chipley. The plant is hardy and it doesn't lose its leaves, but neither does it produce flowers. We therefore consider it unsatisfactory since it is flowering which is the most important aspect of this plant. If you are interested in camellias, I think it is a matter of just trying different varieties. We do say that the singles and semi-doubles are adapted in more areas than the full doubles, the anemone and the peony types. There is a wide range of varieties you can try, and you can't always base your selection on the plants that are only used in the lower South. I would advise those who try to handle some of the southern material to start out with small plants. I would further advise spring planting rather than a fall planting. If you do receive a plant in the fall, either hold it in a cold frame or greenhouse over the winter and then give it a test for a full growing season before you try to do any evaluation.

I think, too, a lot of us could benefit from the sort of philosophy, Cliff Runyon, of Spring Grove Cemetery had on bringing southern plants up North. A lot of us didn't have the patience to listen to him and didn't think we had the time to carry out his suggestions. Briefly, Mr. Runyon's idea was to select the most northern specimen of holly or *Magnolia grandiflora*, collect seed, move the seed up 50 to 100 miles, grow it, and when you have some fruiting plants of that established, again take seeds and move it up another 50 to 100 miles. Gradually you would get the plant acclimated over a wide area. This, naturally, is a slow process since it may take 10 years for plants to bear seed. I suggest that it may be possible to take big steps attempting to move plants 400 or 500 miles. You may lose them all, but again you may not lose any.

*Ilex rotunda* is one of the very southernmost forms of holly that we have. In our particular area it generally winter-kills, yet we now have four seedlings out of 50 that have gone through two winters of 10 degrees. We are not interested in what happened to the 46, they are dead. We do have four that we think have possibilities. If we can do it with a very tender plant that is known to grow in Florida, I think you can do it with some of the other plants that are growing in more northern latitudes.

I will mention a few of the materials we are interested in, and as you will see there is great emphasis placed on the broad-leaved evergreens. For example, we are particularly interested in a selection of *Pyracantha crenulata serrulata*. The plant I am sure is not hardy over wide areas but the possibility of seedlings from these plants or the hybrids between this and your common *P. coccinea* varieties do offer possibilities. There is some confusion in the species since sometimes it is listed as *Pyracantha crenato-serrata*.

There are a lot of magnolias coming up North every year. When I visited in Ohio I saw many of these little plants in local landscape plantings. Some were protected with burlap and straw. People are interested in this plant and, for that reason someone should start with seed in order to really get some good selections. It will be tender, the first several years, but usually after that it will hold up on its own.

We have a problem with some of our southern hollies which are not hardy, even though a good many of the named varieties came out of North Carolina and Tennessee. And again, we have selected good fruiters, having good green foliage and which have been exposed to 25 degrees. Another good holly is Foster Number 2, one of the Foster hybrids of which there are five numbered varieties. I think the Chinese holly is much more satisfactory than Burford to try, and yet, I heard that the supermarkets in Cincinnati are selling Burford hollies. Another possibility for southern material I think is the use of *Ilex crenata helleri* as a small plant for modified container culture. It could be grown as a house plant in the winter and then moved out to the terrace in the summertime. I have had a plant such as this in the house for four years. It has never been taken out of the house and has been growing in a four-inch pot.

That, briefly, covers the topics of propagation trends in the South and broadleaf evergreens which are semi-hardy in the North. Unless we try new materials I think we are going to hurt our business. People want new things. They want the new cars, and new TV sets, yet do we give them new plants? We give them a plant with a new name, but often it has very little different characteristics than the old material from which it was selected.

Now, the next man on our program is Jim Wells, who will talk to us on the subject of holly propagation.

Mr. James S. Wells took the chair.

MR. JIM WELLS: I would like to begin by thoroughly endorsing Fred Galle's request for the development of interesting new plant material. Anyone who has tried to encourage the use of a new plant realizes the many problems that are associated with it. I have always felt

that the burden was directly upon the local nurserymen, the local retail nurserymen, if you like, to educate the people who come through their doors in the use of something a little better and a little different. I don't think that the job can be handed to anyone else or, in fact, should be handed to anyone else. However, it is up to the propagator to supply these plants. So I commend his remarks to you in all earnestness and suggest that we might perhaps diverge from our pattern of meetings to consider more thoroughly at a later meeting new plant material of one kind or another. It might well form a theme for a future annual meeting.

Mr. Wells presented his paper on "A Propagation Program for Hollies." (Applause)

## A PROPAGATION PROGRAM FOR HOLLIES

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In company with many other plants, the propagation of hollies has undergone a quiet revolution during recent years. I mean by this, that the methods of propagation and culture employed by the average grower have changed radically. The groundwork for this change was laid much earlier and in reviewing the somewhat meagre literature available to me, I was astonished to find how long it takes to put an idea over, as well as how difficult it is to change a pattern once it has been established.

Although it is now generally accepted that the propagation of most species and varieties of *Ilex* is best accomplished by rooting cuttings, the acceptance of this method is comparatively recent. I recall that in 1946 most growers were maintaining production by grafting, as I understand they still do in England. It is perhaps significant that the first reference to the propagation of *Ilex* in the Proceedings of our Society was a review by Gleason Mattoon, published in 1952, titled "Vegetative Propagation of Holly by Grafting" (6). Reading the literature, I found that Burbridge (1), in 1877 stated that the propagation of both *Ilex opaca* and *Ilex aquifolium* from cuttings is comparatively easy. This has been substantiated by work at a later date, yet two most excellent books on propagation, one published in England in 1948 (11), and one in this country this year (9) make no reference to the rooting of *Ilex* cuttings.

In October 1933, Zimmerman and Hitchcock (16) described almost all of the important factors associated with the successful propagation of *Ilex* by cuttings. The only point which they omit is reference to the value of wounding, but this aspect is very adequately dealt with by Stuart and Marth (12), who reported in 1937 the effect on *Ilex opaca* cuttings of various treatments with indolebutyric acid. They also clearly show the increased rooting which occurs when the cuttings are wounded. Following these two pioneer papers, we have quite a number of references to successful rooting. Kirkpatrick (7), reporting work done at the Boyce Thompson Institute in 1940, records the value of both