ment. We hope this year to test these findings by larger scale experiments, although because of the shortage of wood even these tests will be limited in scope.

One further consideration should be mentioned and that is whether cutting grown Sciadopitys will ever make shapely, saleable plants. M. Leon Chenault in this little work L'Art de Bouturage mentions in discussing layering of Sciadopitys that it should be only used as a last resort if no seed is available because misshapen plants requiring years of staking result. It may be that Sciadopitys is like Araucaria excelsa, the Norfolk Island Pine, in which unsymmetrical and unsaleable plants result from side branch cuttings even though they root quite satisfactorily. Given the leisurely rate of growth of Sciadopitys, however, we shall all be aged and doddering men before we find out!

MODERATOR MARCH: Thank you, Mr. Flemer.

"Plastic Greenhouses for Propagation" will be the topic of our next speaker, Mr. Harvey Gray.

## PLASTIC GREENHOUSES FOR PROPAGATION

Harvey Gray
New York State University
Agricultural and Technical Institute
Farmingdale, New York

The propagation house I am about to speak of is designed to produce ericaceous plants from seed or cuttings in a year-round program. The supporting frame is made of 1-1/4" galvanized pipe and Lord and Burnham split tees.

The ridge, sash bar-rafters, eave and sill plates are home-made from rough cut redwood bench lumber. The lower section on the sides and end are enclosed with Johns Manville 1/4" asbestos wallboard.

Four mil polyethylene is attached to 4 ft. wide sash. The sash is portable, made of fir 2 X 2's, treated with copper naphthalate, and covered with two layers of plastic with 1-5/8" dead air space between layers. The plastic is held in place with thin strips of redwood and tacker staples. The house is readily ventilated by the sliding sash.

A feature of the house is an upper and lower five foot wide center bed. The lower bed is for summer propagation, using either the vaporproof chamber or the mist system. The upper level is used for winter propagation.

The house is heated by hot water, two inch pipe coils, and each bench has its own heating coil. The heat is caused to flow on command of the thermostat in the medium (the type used in the electric cable heating units).

During the summer season the house is covered with Lumite Saran Shade, the plastic covered sash are in storage at this time, making it possible to get two season's use out of the plastic.

Turkey wire frames are used to support the plastic on the vapor-proof case on the lower level of the center bed. The plants are taken from the propagating house and put in the shade house in May. This planting operation is stepped up through the use of a plug planting board. At the end of the day, the planted area is given a good drink, making use of the portable two inch lines with low angle, shade house Rainbird nozzles.

MODERATOR MARCH: Thank you, Mr. Gray.

Our last talk, "The Application of Supplemental Lighting to Increase the Growth of Deciduous and Evergreen Seedlings", by Dr. Sidney Waxman, University of Connecticut, Storrs, Connecticut.

## THE APPLICATION OF SUPPLEMENTAL FLASHING LIGHT TO INCREASE THE GROWTH OF DECIDUOUS AND EVERGREEN SEEDLINGS

Sidney Waxman
The University of Connecticut
Storrs, Connecticut

The use of artificial light in commercial nursery operations may soon become common practice. Some of you may recall the slides I showed several years ago of a flowering dogwood that grew nine foot tall in one year from a cutting by lighting it during the night.

Although getting plants to grow tall in a relatively short period of time has its value, there are many other purposes for which photoperiodic treatment can be applied. By using long or short day-lengths we can control growth of many, but certainly not all, trees and shrubs. Actually it is a tool that we can use to our advantage under various circumstances.

Before suggesting any of its applications there are several facts that I would like to discuss concerning the response of a plant to photoperiodic treatment.

First, many people confuse photoperiod with photosynthesis, the manufacture of sugar by the leaves in the presence of light. The production of sugars by the leaves requires a relatively high intensity of light in the range of several hundred to several thousand foot-candles.

A photoperiodic response, on the other hand, does not require such high light intensities; the plant that grows taller when we artificially light it at night does not make any more sugars in each of its leaves than a similar plant that is not artificially lighted at night.