18-inch flats could be placed on the benches without having the post interfere as they would if they were on 10-foot centers. Wooden stringers are used over the metal trusses, supported at the ends only; sheets of corrugated PVC are then nailed to the wooden stringers.

We find that plastic-covered structures are much tighter than the conventional glasshouses. We have three comparatively new glasshouses that are not nearly as tight as the plastic structures. This may or may not be an advantage, but care should be given if you are accustomed to glass house conditions and then switch to plastic; with the latter there is much less air seepage and more condensation.

Moderator Boddy: Thank you, Jim. The next speaker is from Oregon. Joe Klupenger is recognized as one of the leading pot plant growers of the Northwest. He grows a complete line of flowering plants and foliage plants. He is also in the nursery business with the production of rhododendrons. Joe is very active in the American Association of Nurserymen and has been active in our Plant Propagators' Society — Western Region. He has spoken to us before at West Linn, Oregon, about his new operations at Wilsonville. We're looking forward to Joe's further remarks on the use of plastics in Oregon. Joe —

## PROPAGATION AND GROWING UNDER FIBERGLASS AND POLYETHYLENE

J. H. KLUPENGER
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Our experience with propagation and growing under polyethylene and fiberglass gives us encouragement for the future. I would like to give a few pointers resulting from our experience in propagation and from the changes we have made over the past few years. At one time we would not propagate rhododendrons under any condition other than enclosed cases in the greenhouses. At a later date we decided we could do a better job of propagation in closed greenhouses but in open benches, although with no ventilation for fear of the cold air "chilling" the cuttings.

At the present time we are propagating in open benches but with air-conditioning fans (on thermostatic control) moving the air directly over the cuttings. We are having a greater percentage of rooting now than ever before.

At earlier dates, we were cautious as to the type of mist nozzle used so as not to get too much water on the cuttings. Now we are using Foggit nozzles; their output is three-gallons per hour. Formerly we used one-gallon per hour nozzles which did not cover the area as well as the nozzles now in use.

Our plans for next season are to move our propagation

under fiberglass. We find that with a high light intensity we have less burning and we are sure of a greater percentage of rooting but with fewer problems of damping-off, and other fungi, developing. As to growing-on in the liner stages for both rhododendrons and azaleas, our present procedures give us a better quality plant with heavier caliper stems and foliage. This has been our experience resulting from growing liners under poly and fiberglass; this is due to higher light intensity, giving top quality results with no burning of the foliage.

We established a test plot this summer growing plants under clear fiberglass using air-conditioning fans but with no cooling pads. Using several varieties, we find this fall that the plants have come through in top condition with a good bud set.

Later in the summer, approximately late June, we completed building 18 000 square feet of house, covered with inexpensive fiberglass (acrylic-treated, 4½ oz., clear, corrugated). Upon completion, we filled these houses with several varieties of potted azaleas which were to finish for fall, 1966; this was budded stock for dormant shipping. Although we were very late in spacing this stock, we were fortunate in finishing this block of stock off in first class condition with a good early bud set.

We have an overhead sprinkler system using Superior nozzles which are tapped into the lines at 10 ft. intervals. Each line covers a 20 ft. wide house. We are using three 4-ft., ¾ HP, 220 V. fans for air-conditioning and cross ventilation on our nine houses. Temperatures did hit 100°F. inside the houses when it was 90°F. outdoors, but with enough water and with the cooling fans, our azaleas came through in No. 1 condition.

Moderator Boddy: Thank you very much, Joe, for coming all the way down from Portland to deliver that fine talk and for the detail with which you gave it. The next speaker on the program is a specialist in ivys. He is going to tell us about it tonight. It's my pleasure to introduce Ken Inose of Gardena, California. Ken —

## AIR-SUPPORTED PLASTIC GREENHOUSES

KEN INOSE

K & Y Nursery, Inc.

Gardena, California

PURPOSE: To propagate ivies, which is my principle crop during the fall, winter and early spring, with a structure that could be erected quickly when needed and then dismantled after the winter season. This type of house can easily be used during the summer with the addition of more coolers.

Two houses were in use from September, 1965, through March, 1966. The dimensions of each were as follows: 30' x