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QUESTION BOX

The 1984 Southern Region Question Box was moderated by Lin Taber, Glen Saint Mary, Florida.

LARRY EDWARDS: I would like more information on crop oil and surfactants. Do these materials have an effect on the chemical with which they are being used?

BRYSON JAMES: They are similar to dormant spray oils and, in general, are nonphytotoxic. They will mix with water. Vegetable oils have been tried, but crop oils are preferred. Ordinary household detergents usually do not interfere with chemical activity if they are nontoxic. Those with high phosphate content should not be used; pH of the solution makes a difference. A spreader-sticker should also be used with most tank mixes. These materials actually have a sticking effect as well as just making water wetter.

TED RICHARDSON: I have found that, in contrast to earli-

er comments, a surfactant works just as well with Poast as a crop oil.

GARY TAYLOR: Is there a danger that herbicides will affect rooting of the cuttings?

CARL WHITCOMB: In general, those we have tested have, if anything, seemed to enhance rooting. Our tests included hollies and junipers using Lasso and Ronstar. There is a real need for more work, especially when pine bark is used for the medium.

JACK SIEBENTHALER: Is there any justification for using materials such as Terra-sorb?

CARL WHITCOMB: In one test we saw a slight benefit. However, the next two times we used it, we saw no benefit; in an extended study the control was the last to wilt.

LIN TABER: I want to comment on the importance of stock blocks. When we receive orders or foresee a coming demand, we immediately flag a block of plants. These are released for sale only after we are sure we have obtained enough cuttings to provide for our demand.

CHARLES PARKERSON: Gary (Taylor), how do you mechanically change your misting setting to adjust for the difference in requirements between night and day? It is not satisfactory for the mist to go off the time clock completely at night as the heaters dry out the plants.

GARY TAYLOR: We simply change the pins on the clocks.

LARRY EDWARDS: We have an extra gear mechanism for the clocks.

DEWAYNE INGRAM: I have a colleague who has worked out a program for a Commodore computer that gives 200 different combinations.

BOB BARRY: Toro has a gear-driven unit that puts out half as much water where there is overirrigation, such as where the spray patterns overlap. It was designed for use on athletic fields.

BILL DUTCHER: Is there a difference in the color of the light passing through white plastic vs. clear plastic covered with saran shade cloth?

CHARLIE PARKERSON: We feel that the clear plastic plus saran gives better results than the white poly.

BRYSON JAMES: The white poly diffuses the light but should not change the color.

FRED MORRISON: Could someone tell me about using the Lotus software for doing cost analysis?

HUBERT NICHOLSON: It includes a spread sheet, database file and graphics. A later package has even more features, such as word processing. It gets complicated.

JUDSON GERMANY: I would like more information on potential sodium problems. How much is too much in your water? Also, what other factors would you look for in a water analysis?

CARL WHITCOMB: Bicarbonates and sodium are the problems. We did a study using gardenias and geraniums as test plants. The geraniums were not affected but the gardenias died after about 2 weeks in the poor water.

BRYSON JAMES: There is not clear answer to your question. A measurement called the sodium absorption ratio is the one to look at. If it is less than 3, there will be no problems. This ratio relates to the balance of calcium, sodium, and certain other ions that are present in the water. The UC Manual[1] gives more information, and soil analysis labs will determine the ratio for you. This is the best we have to go by. The reading can be extremely high in some cases, which means you must be very careful in your growing practices.

JAKE TINGA: I am wondering if some of our problems are not simply a misuse of minor element formulations. These can cause serious problems in a hurry.

CHARLIE PARKERSON: We seem to be pruning our Burford holly at the wrong time. At any rate the plants seem to go dormant after pruning. The plants need to be pruned at the time we do it, so what can we do to prevent their going into dormancy?

LIN TABER: I believe this is related to heat stress more than anything.

CARL WHITCOMB: I have seen this also. If you have a flush of growth and then remove the terminal, you are removing the source of organic compounds above. If the tissue just below is at a certain stage, it just sits there. We have much to learn. At present about the only thing I can suggest is to wait until that terminal matures before pruning.

LARRY EDWARDS: I have also observed this tendency of buds to go dormant in *Ilex* × *attenuata* 'Fosteri'. However, I believe it is more than just the effect of the terminal bud.

CHARLIE PARKERSON: We are having trouble rooting aquipernyi holly.

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[1] Baker, K. F., ed. 1957. The UC system for producing healthy container-grown plants. *Calif. Agr. Exp. Sta. Man. 23.*

JIM BERRY: We did some testing with this plant. I can send you the information.

GARY TAYLOR: We used Dip n'Grow in June in Maryland. *Ilex* × *aquipernyi* is slower than 'Nellie Stevens' but does root fairly easily.

LARRY EDWARDS: I would like someone to comment on using fertigation to supplement the use of dry material. Do you need to use a balanced fertilizer, or will a single element do it?

JIM BERRY: We do use fertigation as a supplement to our dry fertilization program. We use 12-4-6 at 150 to 200 ppm.

CHARLIE PARKERSON: You need to find a reliable supplier and find out what his stock solutions are. Allied Chemical Company formulates ours since they are located nearby. Start out with a formulation around 10-0-6 or 12-4-6, then adjust it to suit your needs. We now use 10-2-6-2. The last number is sulfur, which we believe is important.

STEVE MURRAY: Has anyone taken a true microcomputer to write out invoices, deposit slips, and similar items?

CHARLIE PARKERSON: Tom Dodd, Mobile, is doing this, and we are doing everything along that line with our microcomputer. Don't try to write the program yourself. It is extremely time consuming. A machine with 64K memory will hold a lot. Buy a computer than can interface with other computers to get maximum efficiency.

TOM LETT: Why are we getting roots mostly in the bottom of bottomless pots? Can they be transplanted to the field successfully? We are using half-pint milk containers. They are good for growing seedlings.

CARL WHITCOMB: Air pruning occurs when the root gets to the bottom of the pot, and branching then takes place in a manner similar to what happens to the top when it is pruned. If you watch the seedlings, you will find there is a best time when new root growth occurs at the top of the root system and anchors the plant better. Don't leave seedlings in containers too long.

DON COVAN: We have found that on Shumard oak, golden rain tree, and others, the time of transplanting is important.

TOM SAUNDERS: Could we get someone to develop a granular slow-release fungicide?

LIN TABER: Alliete is a slow-release material.

BRYSON JAMES: It is one of the few we have found that will control water molds systematically, but it is still expensive.

GARY TAYLOR: Subdue or Ridomil are systemic but must be used as a drench.

CHARLIE PARKERSON: It seems to me that the rates of lime reported at this meeting are much lower than at other times.

GARY COBB: I feel very well satisfied with 6 lb./yd.^{3} We have found that most plants will do very well with rates varying from 2 to 15 lb./yd.^{3} Boxwood, however, seems to need the heavier rates.

TOM LETT: We are adding nothing to our peat:perlite mix.

BRYSON JAMES: Water in your area probably contains a large amount of calcium.

DON COVAN: We have found that our water can supply one ton of calcium per acre over one year's time.

SPRAY PROGRAMS AND EQUIPMENT

BRYSON L. JAMES

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Safe and effective spray programs require good equipment, frequent careful inspection of plants, knowledge of pests and chemicals, and accurate records.

We do not have time nor the knowledge to give specific programs to fit all nurseries or all potential pest problems. However, we will offer some generalized examples based on experience gained in custom application and in consultation with many of the best nurseries in the South.

Many nurseries do not have effective spray programs because they do not have proper equipment or do not maintain equipment properly. We will discuss types of sprayers later but should mention here that protective clothing should be considered as necessary spray equipment.

GENERAL SAFETY INSTRUCTIONS

Anytime we discuss pesticide spraying we like to review briefly safety procedures.

— Read the label, *before* using.

— Know the pest.

— Use pesticides only when needed.