

MODERATOR HENRY: Earl has shown us a slightly different approach to costing and I think it's good for us to see some of these different ideas our colleagues have; we can go home and try to adapt them to our own situations. Our next speaker, Ralph Shugert, is going to talk to us about costing propagation.

## **COSTING PROPAGATION**

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My topic today is a most interesting one and has been discussed at several previous Society meetings. Our new Index to the Proceedings indicates that a minimum of six papers covering cost information have previously been published. The costing of propagating is extremely important and I firmly believe that a propagator has a direct obligation to furnish his employer cost information. There is no way that intelligent pricing of plant material can be conducted without accurate, detailed cost analyses. If the propagator is the owner, then I would surmise that pricing would be even more important so that profitability could be justified.

The costing information reported to the Society at our various meetings includes a wide range from generalities, to formulae, and finally culminated with a paper printed in Vol 23 showing the time study on costs in England pertaining to several grafting operations. As I mentioned in a paper presented to the G.B.&I. Region in 1973, the propagator must be motivated by the business philosophy of the company for whom he is employed. If the propagator is self-employed he should have even more personal motivation to determine actual costs in his operation. All of the forms and all of the guidelines existent in the nursery community today are meaningless unless the philosophy of costing is completely ingrained in the individuals involved. There are two record forms that we are presently using at Spring Hill Nurseries. The one form (No. 1) covers seed production and is very simple, showing the amount of time devoted to picking seed, cleaning seed, and the actual seeding operation itself. The form shows the cultivars involved, as well as a field block number, and then the production or unit amount for each specific case. This information is then collated and held until the crop is harvested and graded. We feel that we are now rapidly approaching the final costing of most of the crops we produce.

For years, florists have done a superb job in costing floral crops. For example, in my files I have costs on Easter hydrangeas,

poinsettias, etc. showing the costs completely through production so that the grower can come up with an intelligent production cost upon which to base his selling price. The detail is magnificent! For example, on Easter hydrangeas, they are allocating 2¢ for a shifting cost and .005¢ for the spacing of the plants in the bench. In our operation, our very capable propagator, Mr. Andrew Brumbaugh, now has data on most of the crops that he is producing in the greenhouse area. The other form we use (Form No. 2) shows Mr. Brumbaugh's daily cost record pertaining to greenhouse production. The form shows plant preparation, planting (this could either be potting or direct sticking into pots), pot maintenance, harvesting, general supervision and overhead maintenance. For example, if we took a mail order plant such as fuchsia, we can now determine that the preparation cost, which includes taking the cuttings, costs us .002¢. The potting and bench space labor cost per cutting is .011¢. The medium and container cost is .023¢. The final step then is a maintenance cost per container which will include direct overhead (heat, light, and water), and then we can determine exactly our cost in growing this particular plant. Every plant under our own production has a file card and accumulative costs are recorded on the card throughout the growing period.

Another single plant we could discuss would be crownvetch (*Coronilla*) — 1 yr seedlings. We harvest crownvetch on piece work paying 1¢/plt. The employee counts 25 plants, secures them with a rubber band and puts them in a poly bag. By the use of the incentive harvest program, we know how many salable plants are produced from each bed, and we can easily determine the machine and man-hours to sow the seed, prepare the seed beds and prepare the soil for the beds. The weeding and herbicide hours are then tabulated for each bed, and entered on the card. The next step is to take the general field overhead (supervisory labor, insurance, taxes, depreciation) and allocate the percentage based on the square feet of plants involved. To date we have firm costs on crownvetch as follows:

Harvest & grading	.011¢
Weed & herbicide	.012¢
Seed & seeding	.002¢

By adding the other costs I mentioned, we can find an exact cost of production for each salable crownvetch seedling. The average wage for the crownvetch employee in the spring of 1974 was \$3.33/hr.

The question has been asked me as to how many labor dollars are involved in just the record keeping of the costing of not only greenhouse plants but also field plants. We have a full-time gentleman in our office who devotes 80% of his annual wage to the record keeping of this cost information. It is our philosophy that



these are overhead dollars wisely spent so that we can determine exactly the cost of our own production.

The economics in plant production are predicated on profitability. The mere fact that we have been growing a certain cultivar for 10 or 20 years does not necessarily mean that we can economically grow this plant. Management must decide after reviewing costs to discontinue growing the plant and purchase it from another supplier, or quite carefully analyze the actual production steps taken to see if there is a possibility of per unit cost production reduction.

We are very fortunate in that 82% of our sales dollar is derived from direct mail order. Slightly over 1 year ago, we established an incentive program to cover all of the shipping of our mail order plants. We have increased this incentive program to encompass virtually everyone in the nursery. This starts with the women who open mail, the keytape operators, all of the steps derived to mail order shipping, which would include the processing of the plants, the picking of the plants, and the final packing of the plants. This past year, we included the checking, scheduling, and post office department in this program. This incentive program is slightly unique in that everyone works together in a team effort. The rates are different for each of the departments; but the philosophy of the rate schedule is the same for all departments. The rates are established by only one criterion, and that is the total number of orders shipped each day. People who are picking orders are responsible to the people who supply them with the plants and, of course, the people who pack the orders are dependent upon the people who pick the order to be packed. We have found this to be a very successful program. It has achieved three functions: First, the daily productivity of the nursery has been increased. Secondly, the average hourly rate for our employees has been increased. Our average incentive rate for spring 1974 was \$2.99/hr. Thirdly, it gives management a direct labor figure for the shipping of each order. This figure, plus the carton and postage, and the cost of the plant, will enable them to make the decision to ship a replacement plant, at no charge, or send a refund check. If the replacement plant is under \$2.00 (catalog price), we save money by refunding rather than shipping, and this shall be our course of action in spring, 1975. There is no single program, that I am aware of, without some problems. However, I will say in all honesty that this program has been very successful.

There has been a great amount of discussion over the years pertaining to piecework remuneration in the nursery community. I suppose there are as many proponents for the program as there are opponents. We have established this policy for a good number of years with our balling crews and with our field budding crews. Now, by having the piecework program under roof, to include all

of the people directly responsible for mail order shipping, we are even planning now to extend the program to field harvesting and in the spring of 1975, all of the field planting will be on incentive basis. We like the philosophy and the employees are very happy with the program. We have found that we can achieve higher productivity levels with fewer employees. To follow this a bit further, field budding is an important part of our asexual propagation. We know, from our piecework rates, that it costs us 3¢/plt for the budding and tying function. However, the following steps must also be costed, per plant, to arrive at an accurate and precise production cost: field preparation, understocks, planting, maintenance (cultivating, spraying, herbicide, weeding), budding, suckering and cutting back, maintenance (second year), harvesting, storage and ricking, grading, ricking and labeling (after grading), field overhead. While this sounds like an impossible task, it is not. If the daily forms are adequate, the data for each cultivar can be compiled irrespective if the crop is grown for 1 or 10 yr. This is information we must have if we are to operate a profitable enterprise.

The costing of plant propagation is vital to an aggressive company within our industry. We feel that it is an absolute necessity and in another 12 months, we should be in an excellent position to give an exact cost of production to every crop that we are growing. We know what our selling costs are in mail order. It is then a simple matter of blending the two figures together to come up with an exact cost to predicate a retail price upon.

MODERATOR HENRY: Thank you, Ralph. In summary, I believe that any costing system requires four steps, 1) you must begin a comprehensive program, 2) you must conscientiously follow it, 3) you must be patient and await the developing results, and 4) you should be ready for some surprises because the results may not be what you expected. We are out of time and so I'll turn the program back to Larry Carville.

LARRY CARVILLE: I want to thank our two moderators, Mr. Bill Flemer and Mr. Knox Henry, for two excellent programs this afternoon, to all of the speakers who participated in this afternoon's program, and finally to you our audience who have been so patient even though we have run quite a bit behind time. This concludes this afternoon's program.