

It is extremely important not to cover the top of the bag with soil as the fabric above the soil is what you must use to harvest the plant. We leave a 1½-in. collar. We can easily drill 950 planting holes a day, which makes the system very efficient. Our cost for planting 25,000 ft. of trees is about \$10,500.

It takes us only 3 min. to harvest a 6-ft. pine. We remove about one inch of the soil, then fold the edges of the bag over the top and wrap the ball with twine. We ship only within a 50-mile radius but have not seen any indication that shipping would be a problem. We leave the plants upright and seem not to lose soil.

Although some nurserymen run a knife around the inside of the bag to help loosen the plant when removing the bag, it really isn't necessary. The knife doesn't cut the roots, just pops them loose. The roots are already girdled and do not need to be cut.

## **THE NURSERY INDUSTRY: WHERE ARE WE HEADED?**

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### **GENERAL**

Now that the rose is officially the floral emblem of the United States, I can say the nursery industry certainly has a rosy outlook!

I foresee a strong and growing demand for our products and services. In this I include all ornamental horticulture and floriculture. We are gaining more and more appreciation of and desire for all that plants and flowers can do for us in our daily lives both indoors and outdoors. Horticulturally, we are beginning to be a developed country.

I don't pretend to know what the future holds for our industry or any other. However, I can see the changes that have taken place in the years I have been a part of the nursery industry and can see the signs of future changes, which are likely to be much more dramatic on a year-by-year basis. These include:

1. **Computers.** Production operations as well as office administration and management functions will be computerized.
2. **Plant Growth Modeling.** Better sensors are being developed and programs written that will make modeling commonplace.
3. **Mechanization.** Go to any of the major trade shows like SNA, TANMISSLARK, AAN, BPI, and others that attract

- growers and look at the impressive equipment on display.
4. **Marketing.** Consumer tastes are changing and becoming much more segmented.
  5. **Biological R & D.** This type of research is still in its infancy and devoted primarily to more economically-important agricultural crops for food and fiber.
  6. **Resources.** Natural and other. What about energy costs, water availability for production and consumers? Labor availability?
  7. **Government.** What will it do for us—and perhaps to us?
  8. **Management.** Who, how? Can we as independent business people survive? You bet we can—and will.
  9. **Information.** How are we going to find out what we need to know? With difficulty!

Our future is dependent entirely upon us. Everything we sell and buy is market-driven. If the market wants one of an item it may cost \$1,000, while if the market is for 100, the price may well fall to \$100. So we, as an industry, can become mechanized and automated if the equipment can be developed at a cost we can afford.

Which of these factors will be most important and the greatest influence on where we are headed? Most of us will differ in how we see these factors. Unfortunately, many nurserymen put marketing at the bottom of the list. I put it at the top! Why?

1. *None of us can exist without a market for our products or services. Marketing is not selling. Marketing is developing a demand for a product.*
2. *We are fortunate to have a product that most everyone wants, but it is not a daily necessity like food, fiber, and shelter. That is a marketing advantage.*
3. *Markets are changing. Those of you who go back 30 years know that most nursery stock was sold by mail-order firms and sales agents who were the nursery counterpart to the Avon Lady. Then came local retail nursery stores; farm stands; and stores like Sears, Wards, and Woolworth during the late 50's and 60's. Now the mass retailers are leaving and nursery-garden center chains such as Franks, Wolfe, Nurseryland, and the "Home Center" retailers are coming into the plant business fast and will have significant impact. We hope that impact will broaden the market and availability of landscape plants.*
4. *The market is becoming segmented. Many of our customers are becoming more sophisticated and want a wider range of plants and services. This is especially true of two-income families.*

5. There is a native plant "fad". I choose that word because I feel it is a fad. Granted the interest in native plants will be permanent, it will be at a level well below the peak we should reach in the early 90's. Xerophytic natives will be more important, especially in arid regions.
6. We must become better marketers. We cannot be just better sales people, because competitors among all products and services will be keener and more sophisticated. This is all the more reason we will need groups like the Nursery Marketing Council to carry our message to consumers. What we cannot do alone we must join together, financially, to do together. So far NMC is the most effective tool we have—support it and use it.

## RESOURCES

Next in my order of priorities are resources. Energy is without question still a factor and will be, in varying importance, for all time to come. Here we have a marketing advantage when our products are used for climate control. But we are also going to suffer the burden of future energy shortages and unpredictable cost fluctuations.

My greatest concern relative to natural resources is water! In many, if not all, areas both availability and quality will become increasingly critical. You people in Oklahoma and surrounding states may question this now, but we along the mid-Atlantic and south Atlantic states do not.

When the water crisis hits, it will make the energy crisis of the recent past look like nothing. Stop and think what impact that will have on our production and sales because no amount of marketing will overcome a water shortage.

You should begin to think in terms of recycling runoff if you aren't doing so. It is going to cost, but it may mean staying in business.

Another resource which is going to be less available is labor. And, it will be more costly. As our population ages and as people reject menial hand work, we are headed for mechanization and automation. Labor efficiency and productivity are going to be essential. This is more apparent when you realize that service industries may be especially hard-pressed to come up with needed labor.

## GOVERNMENT

Perhaps that heading should be plural. Government includes laws, regulations and their interpretation whether IRS, OSHA, EPA, ZONING, or even FCC, which may tune out your radio or increase your phone bill.

The so-called tax reform bill is just one example of what lies ahead in unknowns. Petty rules and loopholes will come out of it that will take two to three years to correct. However, I see benefit from this tax legislation in modifying tax shelters so that there should be less speculation and frivolous investment in nursery production. We can't afford the overproduction of the recent past even if we do not suffer a shrinking market caused by high interest rates that shut down new construction, remodeling of homes, or upward mobility in home buying.

An increase in the minimum wage will affect everyone because it moves right up the ladder to top management and will affect profit before prices reflect the change. And there goes inflation!

The new immigration reform will complicate our business lives. It makes us all law enforcers—policemen—to check the citizenship of each employee.

As a benefit we may get occasional zoning laws to prescribe landscape plantings with all new construction. Certainly plantings are needed from an environmental and esthetic standpoint.

#### AUTOMATION AND MECHANIZATION

The likelihood of labor shortage puts a higher priority on mechanization. What are we seeing?

- A. Canning/potting machines of increasing sophistication.
- B. Mixers to customize media for crops and ever-improved blending of ingredients with better formula control.
- C. Flat/tray filling equipment and all kinds of seeders for the bedding plant growers.
- D. Greenhouse mechanization; including roller benches, mechanical watering, mechanical pesticide and nutrient application, energy-conserving curtains, light control.
- E. Agrimation and agrobots are two terms which have recently appeared in both the trade press and popular press. This is the computerization of mechanization. Robots are programmable automation. They are computer controlled; hence, can be programmed to do different jobs and modified for different crops.
- F. Sensors. The key to successful automation of our industry, or any industry, is sensors that give complete information, which can be interpreted and the needed action implemented.
- G. And with all this will be better sanitation practices which will give higher yields of better quality plants resulting in more profit and lower costs to aid marketing.

## BIOLOGICAL RESEARCH AND DEVELOPMENT

If we are in the infancy of computer development of our industry, we are still in the gestation period of biological developments.

We are all well acquainted with tissue culture; and as with computers, we do not know just how it may apply to many aspects of our needs, but I do not foresee that tissue culture will take over the propagation and multiplication of plants. I do see its importance in maintaining the gene pool of certain plant genera as already demonstrated. Basically, it will become a tool for building initial stock of new cultivars, cleaning up certain disease and pest problems for mother stock, cleaning up and truing up cultivars that have become widely varied and truing up cultivars for use in conventional plant breeding.

## INFORMATION

The problems and possibilities of gathering, cataloging, and assimilating information in and for our daily business operations is only starting to be real to us. The proliferation of information today is incomprehensible. There is a doubling of literature, in our industry, every 6 years. Research indicates that the average business manager spends 3 to 4 hours a day reading just to keep up with the information needed to do his/her job. *Business Week* predicts that in 10 years the average manager will need 10 times more information—just to be informed.

How are we to cope and benefit and use this information? Computer data banks and information centers will come into play. Trade associations will sift it and condense it as a member service. Other publications will become available extracting the heart of the information.

## MANAGEMENT

What has management to do with *The Future of Our Industry*? Management has to put this all together and make it work! And it must work at a profit. Management is making the right decision at the right time. Management is acquiring access to all the tools of the trade you can—then putting these tools to work.

CONCLUSIONS: (From: *Greenhouse Grower Magazine*—  
September, 1986)

“What of the Future? Why is high-tech mechanization necessary? For American products to be competitive internationally, the unit cost of labor plus mechanization must be comparable to foreign rates. Since labor accounts for 30 to 50% of current U.S. production costs, an increase in productivity achieved through high-tech mechanization could substantially improve profits in the green-

house industry.

"The nursery of the future will be an important component of profitable diversified agricultural production systems providing fresh, locally grown flowers, decorative plants, and vegetables at competitive prices (1).

#### LITERATURE CITED

1. Kutz, L. J., G. E. Miles, G. W. Krutz and P. A. Hammer. 1986. Robots in the Greenhouse. *Greenhouse Grower* 4(9):14-17.

### MARKETING NURSERY CROPS

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Marketing is defined in various ways, but I will define it as the process of promoting sales and presenting the value and use of a product to potential consumers. It sounds simple enough. Everyone is deluged with a vast assortment of marketing ploys every day on television, radio, through newspapers, magazines, and billboards. Many of the products we buy are designed to enhance marketing of the same product in the future. Repeat purchases are encouraged by labels, colors, designs, and other information that we see every time we use the product. The toothpaste you use every morning is in a brightly-colored container to remind you of the brand you purchased and to increase the likelihood of getting you to purchase it again. The manufacturer of the toothpaste advertises it in an assortment of ways to try to retain you as a customer, but you must make your purchase at a local outlet.

Contrast these techniques with the practices most used in the nursery business. The wholesale grower produces a dynamic, attractive, growing and useful product and sells it to a retail nurseryman, garden center operator, or landscape contractor. Once the plants leave the wholesale nursery, little or no further thought, planning, or promotion of the product occurs. In essence, the wholesale nurseryman is turning over the future of the product entirely to the purchaser. In the past, the purchasers eventually came back and made additional purchases, so it was assumed that all was well.

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