Computers and Small Business (continued)

future. A local print shop can't make multi-copy forms. More lead time will be needed in obtaining forms.

6. Automate in house. The electronic age is with us. Equipment is less expensive than it was ten years ago and it will do more for us. An electronic cash register that can separate sales into 20 departments and produce very presentable statements can be purchased for $3,000.00 programmed. Shop around. The big names in cash registers are not the best values. New equipment is being developed all the time. See a local independent cash register dealer with a good service record. If he handles two or three lines, he is probably well-qualified to recommend equipment and systems for your particular needs. We are using a TEC MA-500 with a DRS 102 printer. Other brands will do a similar job. Having a machine that can multiply, calculate sales taxes, and print it on a combination ledger-statement while the sale is recorded is a big time saver. We have had this machine on line a full year. The same form was used on a mechanical register for ten years previously without the electronic amenities.

As our business grows in size and complexity, we must be watching for areas that need improvement. New things cause disruption and getting-used-to, but if we plan wisely, the new methods will make our business run more smoothly. Timing is important. A change in your payroll system is most easily implemented at New Year's. That means shopping around now so that needed forms or services are available before the Christmas rush. A change in your billing system should be done during summer/early fall, when volume is lowest, so that everyone is trained and ready when the busy time arrives. We have used an overlap period when the accounts were put through the old system and the new system to make sure everything was working properly. The person reading the register has to work out a method of compiling daily totals into a convenient, storable record. This takes some time working with the system. A change in your check-writing system could be implemented at any time of the year without much disruption of office procedure.

This paper is not meant to endorse any product or service. It is a compilation of ideas that have come to my attention in managing a florist and greenhouses over two decades of time. There are many business aides available that you have to make choices from when the need arises. The computer is not the only way to keep records today.

SOURCES

Combined Tax Tables—Roberts Weekly Tax Guides, P.O. Box 180, Cicero, IN 46034

Single Write or Peg Board Systems/McBee Systems, or Safeguard Business Systems are both listed in the white pages of big city phone books.

Rapidforms, Inc., 501 Benigno Blvd., Bellmawr, NJ 08031 for a catalog of business forms and systems.

ADJUSTING SOIL ACIDITY AND ALKALINITY

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Increasing soil alkalinity or raising the pH is done by using some form of liming material which adds calcium to the soil. The materials used for liming range from slow acting limestone to quick acting hydrated or burned lime.

Ground limestones. Calcium carbonate, or carbonate of lime ($CaCO_3$), is the most widely used liming material. It contains approximately 56% calcium oxide. The particle size affects the speed of the chemical reaction in the soil. The smaller the particle, the faster is the reaction due to an increased amount of surface area in a volume amount. If limestone is ground to pass through a 200 mesh screen (200 openings per inch), it reacts quickly to raise the pH.

Dolomitic limestone [$CaMg(CO_3)_2$] contains both calcium and magnesium. The percentage of magnesium depends upon the parent material used. Dolomitic limestone acts to neutralize soil acidity at about one-half the speed of reaction of calcium limestone.

Limestone materials are generally used at rates of from 5 to 20 pounds per 100 square feet of area. The amount used depends upon the beginning pH of the soil and the pH desired. Soil should be tested for pH so the proper amount of limestone is added.

Calcium hydroxide $Ca(OH)_2$ also known as hydrated lime, is prepared by adding water to burned lime. This material contains very large amounts of oxides. When exposed to moist air, it is converted readily to limestone. Because of its rapid chemical reaction less hydrated lime is needed, as compared to ground limestone, to change the soil pH. Where the recommendation is to use 5 pounds of ground limestone per 100 square feet of area, only one-half that amount of hydrated lime is needed.

Calcium sulfate, $CaSO_4$, or gypsum, also known as land plaster, is not generally used to correct low pH conditions. It is applied to add needed calcium when the pH is already in the proper range. Gypsum is usually applied at the rate of 5 pounds to 100 square feet of area, but may be used up to 20 pounds per 100 square feet.

The ability of a liming material to change the pH of the soil is dependent upon the type of soil and the buffering capacity of that soil. Buffering capacity refers to the ability of the soil to resist changes in pH. Heavy clay soils and soils containing large amounts of organic matter, such as peat-lite mixes and peat soils, have a high buffering capacity. To change the pH of these soils, a large amount of liming material must be applied.

Sandy soils have low buffer capacities. These soils contain very little organic matter. Only small amounts of liming materials are needed to cause large changes in the soil pH.