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# Bottom-up management

Delegate responsibility for reviewing suggestions to a committee of employees.

**Ask your employees what they want and need for the company, solicit their suggestions—and then listen.**

by Ed Wandtke

■ Today, the skills you need to lead, manage and direct your company are becoming more complex. Many of you are discovering that, by allowing more people into the planning and directing process, company performance is improved.

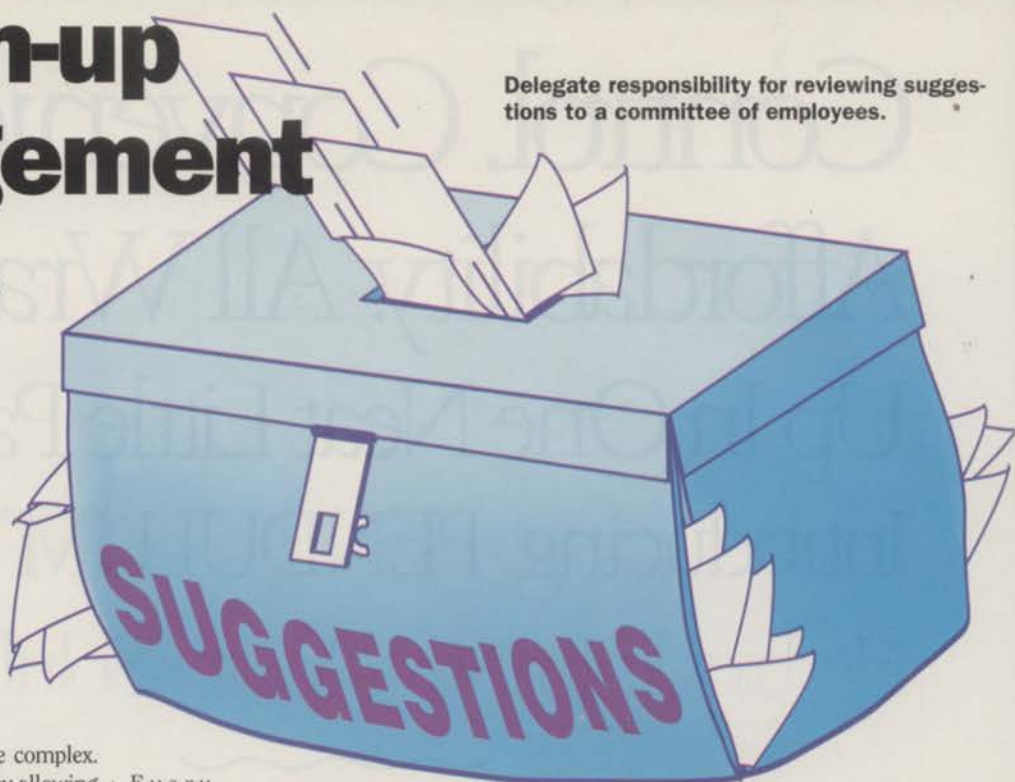
If, however, you have been your company's sole "brain trust," here are some ideas on how to involve your employees more in its operation.

**Suggestion boxes**—For years, companies have used suggestion boxes. But the concept doesn't work if you fail to react to the ideas suggested or to reward the contributors. As you embark on a new business year, now is the time to reactivate this informal system of receiving ideas from your employees.

One company has discovered that a great way to start the suggestion system is to delegate responsibility for reviewing employee suggestions to a committee. By using three employees instead of the owner to evaluate suggestions, the quality of the suggestions seems to be increasing. Posting the good suggestions and the rewards paid to individual workers (or to the entire staff) also serves to encourage participation in the suggestion system.

**Participation in planning**—Some companies frequently fail to take advantage of an excellent resource—their employees—when developing the company's future direction. Aggressive companies have found the following method of employee participation to be very helpful:

Every year, one or two days are set aside for all employees to go to an off-site retreat. Here, small groups focus on what the company is doing, how it is doing it, and things the company may consider doing differently.



Every employee is involved in evaluating the company. Realizing that there is no right or wrong answer to questions, employees often speak very openly.

If you have more than 25 full-time employees, I suggest you break the participants down into two equal-sized groups. Enabling all employees to speak and participate is necessary for this type of planning to be effective.

**TQM**—Setting up a system of Total Quality Management means that all employees need to play an active role in delivering quality service—no matter what portion of the industry you are in. So ask yourself the following questions:

- Do customers feel comfortable talking about the quality of your service with any employees they meet?
- Do employees have the option to make decisions on a job, based on customer concerns, without checking with you first?
- When messages are passed from customers through employees to you, are you certain that you are receiving each request?
- When employees join your company, do they learn the chain of command, your work rules and operating procedures before they are allowed in the field to perform services?
- Is each employee accountable for the work he or she performs?
- Are employees encouraged to make suggestions and to seek new business as they see opportunities?

If your response to any of these questions

is "no," your company is not taking advantage of one of its most valuable resources, your employees.

**Refocusing**—If employees lack a basic understanding of the company (what it is, what it does, who your targeted customers are, why you are in this business), they may often do things that don't help the company. Changing your information and communication system, along with establishing accountable work groups, is one method to improve a company's performance.

To be successful in the future, you will need to adapt to changing management systems and operating systems. You will need to become a leader with a vision, which then needs to be shared with employees.

Having all your employees know where the company is headed and how they can participate is critical. This will lead to a more harmonious workforce and faster achievement of company and individual goals. When employees have had a hand in setting company goals, the companies consistently achieve a better performance than the owner might have planned.

Don't underestimate the performance capabilities of your employees. They often want to reach higher goals, faster than you might expect. Bring employees into your planning process and the results will be rewarding to both the employees and to you.

—Ed Wandtke is owner of Wandtke & Associates, Columbus, Ohio. For more information on Wandtke's business consulting services, phone (800) 966-3546.



# BIOTURF NEWS



## Plants thrive on organic diet, says Atlanta landscaping firm

**Post Landscape Services says the plants are more vigorous, healthy.**

by Todd Tibbitts,  
Post Landscape Services

Post Properties, Inc., developers of more than 70 apartment complexes, has throughout its history had a policy of protecting the natural settings that surround its various projects.

The concern has carried over to Post Landscape Services, a subsidiary of Post Properties, and it has also expanded to handle commercial clients other than Post Apartment Homes.

One aspect of enriching the soil, a

key element in the Post approach, is the use of organic fertilizers and pesticides.

The use of organics is but one part of an overall commitment by PLS to retain the natural beauty of the land.

When PLS develops a site, among the considerations are retention of native trees, wildlife preservation, wetland preservation, water efficient landscaping, positioning of trees for maximum shade and windbreak, and the retention of the natural land contours for proper drainage and aesthetics.

The primary goal is to plant and maintain outdoor living environments which will be actively used and enjoyed by residents of Post Apartment Homes or the residents of other commercial properties serviced by Post.

An appealing landscape is best appreciated when people can wander among the green foliage and colorful flowers.

### Balance IPM

The use of organics in maintaining the landscape around an apartment complex is an extension of the considerations that begin during the planning and preparation stages for a site. One of the purposes behind the use of organics is to balance out an



Containers in the Post River Apartments are kept on an organic program.

integrated pest management program.

As is well known, organics allow for biological control of pests, rather than chemical control.

Lady bugs and other beneficial insects or microbes are left alive, and soil can actually be enriched and become more productive.

With these positive results, plants are more vigorous, and healthy plants can survive changes in weather conditions, such as drought.

PLS Floriculture Manager Carol Hooks has noted that plants previously



Conifers and perennials at the Post Vinings Apartment community in Smyrna, Georgia. In the foreground are *Ajuga*. *Dianthus* 'Baths Pink' are in the background.

### INSIDE

- The importance of quality topsoil
- Baited traps monitor insect activity
- Sample scouting plan



labeled as problem performers began flourishing as the soil conditions responded to use of organic matter. This was particularly important in beds that had been chemically treated for 20 years, and had been depleted of essential microorganisms. The increase in microbial activity as a result of the organic treatment worked wonders, says Hooks.

Organics have been most productive on flower beds maintained by Post. The formulation used in flower beds is consistent with commercial fertilizers, and granular forms are available. These products are applied by hand.

When Post began to test the use of organic products, flower beds were chosen because a contained, controllable plot could be isolated. In the case of flowers, which have a short duration and require more regular attention, organics are a good fit, as they are for vegetable gardens.

Protecting the integrity of the environment is the foremost motivation for the use of organics at Post Landscape Services. But, as stated earlier, healthy plants are more vigorous, and for flowers, this results in more vivid color. The investment in organics, which are still more expensive than alternative fertilizers and pesticides, can produce long term benefits by contributing to soil quality and generating better plants. For a developer, this end result makes the investment in landscaping more cost effective, while at the same time, produce attractive scenery anyone can appreciate.

Post Landscape Services has maintained these principles in all of its installation and maintenance practices. With a greater demand for organic products by the public, the price has begun to fall gradually on the products for the commercial market.

This trend should continue as more developers and property managers begin to appreciate the merits of organic products.

—The author is vice president of Post Landscape Services, Atlanta, Ga.



The Rosa 'Nearly Wild' bloom eight months a year. Fertilizer is applied only occasionally.



Spring pansies and tulips in Smyrna, Ga. Cool season applications of organic products on winter annuals help keep the bloom count high.



Summer flowers on display at the Post Bridge Apartments in Marietta. Post uses organic products on more than six acres of flowers around the city.



# Quality topsoil delivers best results

**Quality soil makes the balance of site work easy in the short and long term.**

by Paul D. Sachs

■ The soil in a new landscape application is like the foundation of a new building: if quality is overlooked at this stage, many problems will undoubtedly lay ahead.

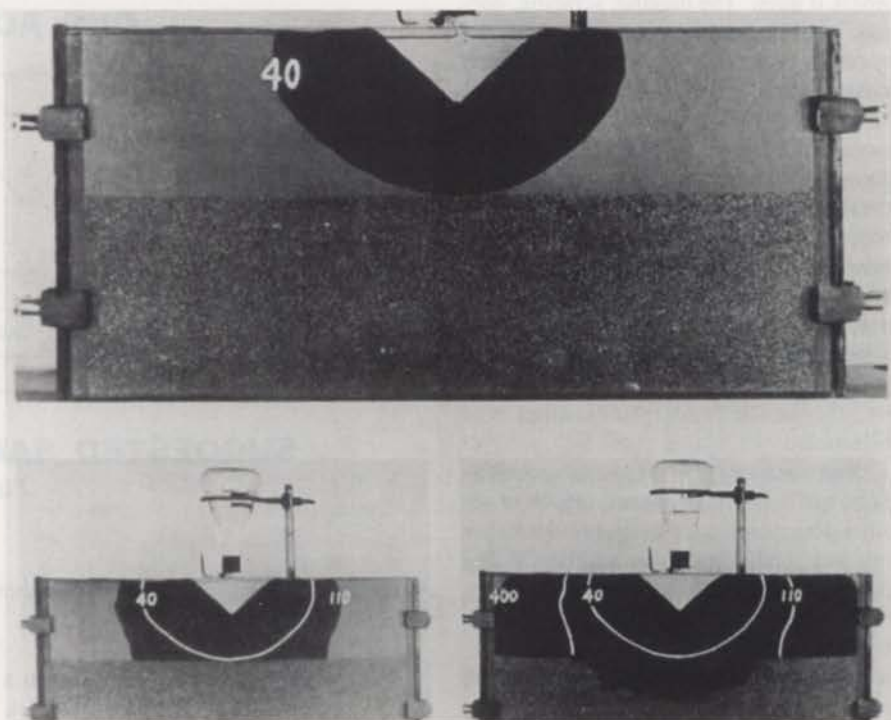
Unfortunately, soil at a site is rarely specified to be improved in most contracts. The more common practice is to call for imported topsoil and lay it down four to six inches deep. This superficial fix can cause a malady called layering which disables the capillary movement of air and water through the soil.

Many years ago a scientist named W.H. Gardner found that the movement of water was abruptly inhibited by inconsistent layers of soil. His experiments (see Fig. 1) showed that a layer of topsoil applied to a subsoil with a significantly different consistency became an insufficient reservoir of moisture for whatever crop was planted. As the topsoil settles and/or compresses over the years, that reservoir shrinks. The topsoil may never integrate enough with the subsoil to permit proper capillary movement of water and atmosphere.

During heavy rains the topsoil layer will become saturated with water before any drainage into the layer below occurs. This condition starves the roots of oxygen and stresses the plants. It can also cause denitrification which results in a loss of available soil nitrogen. When drought periods occur the field capacity of four to six inches of topsoil is often not enough to sustain the moisture needs of plants. Starting a site with this problem can be a warrantee of many more problems to come.

When replacing soil from an excavated site, the subsoil is oftentimes compacted by the repeated passes of heavy equipment.

**W**hen replacing soil from an excavated site, the subsoil is oftentimes compacted by the repeated passes of heavy construction equipment.



**Fig. 1: Experiments by W.H. Gardner found that water movement is inhibited by inconsistent layers of topsoil. Numbers indicate minutes to reach saturation points.**

This also disrupts the flow of water and atmosphere through soil layers. However, controlling compaction during construction is often difficult. The remedy is to attempt a replication of the natural changes from subsoil to topsoil.

As the level of backfilling approaches twelve to sixteen inches below grade, topsoil could be added and mixed with the replacement subsoil so that abrupt changes in the soil's horizons do not occur. This can be accomplished with a rototiller, harrow, plow, or by premixing the subsoil with topsoil. As backfilling gets closer to grade (within eight to ten inches) a greater percentage of topsoil can be mixed with the subsoil. The last four to six inches of backfilling can be accomplished with straight topsoil.

This construction design provides more gradual changes in the soil's physical structure allowing better movement of air and water. Root systems of plants will have better drought resistance and easier access to

soil atmosphere. This program may be more expensive in the short term, but can be much less expensive in the long term if some of the problems associated with layering do not occur.

In areas where backfilling is not part of the operation, some topsoil should be worked into the existing soil before the final 4-6 inch layer is applied. This transitional layer will mitigate the abrupt changes from poor soil to quality loam. The practice can also loosen the compacted rough grade layer.

The quality of the topsoil being imported is another area that should require more scrutiny. Topsoil is often ordered from suppliers, dumped, and spread without any question of where it came from or how rich it is in nutrients and organic matter. Some physical attributes may be noted by the contractor but it is usually related to the ease or the difficulty of handling the material.

Knowing the quality of topsoil might be analogous to knowing the quality of the concrete being poured for the footings of a tall building. The consequences of poor quality in either case could result in complete reconstruction at some point down the road. Without a soil test, the long



term success of a landscape is at risk.

Imported topsoil is often changed in the transition of where it comes from to where it goes. The digging, scraping, dozing, loading, transporting, dumping, and spreading of topsoil causes significant changes to its structure, chemistry, and biology. If topsoil is left sitting in a pile for any extended period of time, more of these changes will occur. Unfortunately none of these changes improve the quality of the topsoil. Organic matter is diminished, beneficial organisms such as earthworms and mycorrhizae fungi are all but wiped out, and the aggregation of soil particles is significantly lessened. If the topsoil was of poor quality where it was excavated, then it will be even less acceptable when it is delivered.

**Soil testing.** Too often site specifications call for lime, fertilizer, and/or other amendments without analyzing the existing soil conditions. This practice is like hunting in the dark, by discharging every round of ammunition in ones possession in the hope that some game will be hit. It is not a practical approach in terms of cost efficiency or in addressing any real deficiencies or excesses that exist in the soil.

Additionally, excess or unneeded applications of fertilizer can cause pollution which may have liability ramifications for the owner, the designer who wrote the specifications, and the contractor who applies it.

Conducting a soil test is a simple and inexpensive way to insure that the proper amount of soil conditioners are applied. However, if the soil samples gathered do not represent the overall soil conditions, the information from the analysis report will be less helpful than no information at all.

**How to take samples.** In any given area, it would be rare if two soil samples could be found, even if they were drawn a foot away from each other, that produced the exact same test results. So it is extremely important to get a good representation of the entire area being evaluated. The test results will only be as useful as the sample is accurate. Fig. 2 shows an example of a sampling pattern usually recommended to insure results that are relative to the overall condition of the area. The number of samples taken should depend on the size of the area. The more samples taken, the better the representation.

**K**nowing how much organic matter is in the soil is like knowing how much fuel is in the tank of your automobile.

If imported topsoil is being used on a job it is a good idea to test a sample of it. Like anything else, there are good quality materials as well as poor quality materials.

The same sampling procedure should be used on a pile of topsoil to get a good representation of the entire shipment.

Most labs offer recommendations either automatically or as an option that costs a little extra and are based on the data derived from the sample. Therefore, the lab recommendations are only as good as the samples taken. Recommendations are based on nutrient uptake of specific plants under average conditions. Normally, a lab will ask for more information such as type of crop, crop use, topography and previous treatments if they are to provide recommendations.

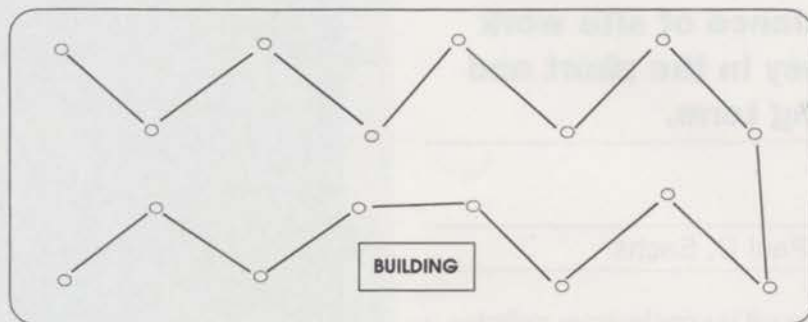
**Organic matter.** Organic matter is a barometer of soil health. The population of organisms that is supported by soil organic matter is of immeasurable benefit to plants. More organic matter means more decomposers that recycle nutrient from plant and animal residues faster; more nitrogen fixing and mineralizing bacteria; more beneficial organisms that help dissolve mineral, transport water

from soil depths and help control pathogenic fungi; and more humus that increases the water and nutrient holding capacity of the soil. Humus acts like a sponge in the soil which expands and contracts as its moisture level changes. This activity within the soil creates porosity which improves the movement of air and water.

The test for organic matter, especially in a sample of imported topsoil, is important. Topsoil with an organic matter content of less than two percent in temperate regions should be considered an inferior quality material. Topsoils with four percent or more organic matter are superior and should be preferred in site specifications. Muck soils with twenty percent or more organic matter can be too much of a good thing. They can be soggy and difficult to work with and not an ideal growing medium for many cultivated plants.

As we move closer to the equator, high levels of organic matter in soils are more difficult to find and maintain because the warmer annual temperatures increase the biological activity that decomposes soil organic matter. However, this is not a reason to accept poor quality topsoil. Many suppliers are now mixing composted organic wastes into topsoil, increasing the percentage of organic matter. Beginning a job with higher quality topsoil, even in the warmer regions of the country, gives plants a better chance for long term survival.

## ONE ACRE LOT



## SUGGESTED SAMPLING PATTERN

Figure 2

A sampling pattern similar to the one shown above improves your chances of obtaining an accurate soil analysis.



Peat moss is also used as a means to increase the organic matter content of topsoil, and although it does lower the bulk density of the soil and provide porosity, it does not break down into humus very quickly and will take longer to provide many of the benefits of a stable soil organic matter.

An alternative to applying imported topsoil is the incorporation of high quality compost into the native soil. This practice enables one to improve the existing soil environment as opposed to creating a new one.

Adding compost will stimulate beneficial soil functions but it is important to understand that compost is not stable soil humus. Less than one percent of a compost application may actually become stable soil humus (depending on soil conditions, climate, and the way in which the soil is managed). If the top six to seven inches of soil weighs two million pounds per acre and the compost being

used is 50 percent organic matter, then it would take 20 tons per acre to temporarily raise the soil organic matter by one percent. Heavy applications of compost (greater than 30 tons per acre) are not recommended unless it is incorporated into the soil because, like layers of topsoil, it can disrupt the flow of water and atmosphere through the soil horizons. Tilling or dicing in ample amounts of compost can change the quality of a backfilled subsoil into a

medium that promotes vigorous plant growth without the occurrence of layering. Another advantage of compost over topsoil is that it usually contains little or no weed seed, negating

the need for a herbicide application. Construction of the soil requires the same care of design and quality materials as any structure that is built to last. The proper structure and fertility of any soil is important if the quality of a landscape is designed for the long term.

**A**n advantage of compost over topsoil is that it usually has little or no weed seed, negating the need for a herbicide application.

*Paul Sachs is founder and president of North Country Organics, a Vermont-based manufacturer and supplier of natural fertilizers, soil amendments and environmentally compatible pest controls since 1983. His book, Edaphos: Dynamics of a Natural Soil System, examines ways in which Sachs believes human beings are linked to the ecosystem, and how that link determines the future of civilization. To order Edaphos, call (802) 222-4277.*



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# Map property for easy scouting

■ Dr. Ron Smith of the North Dakota State University extension uses this kind of property diagram in a local IPM program. Modifications are made as needed for each customer.

## PLANT LIST

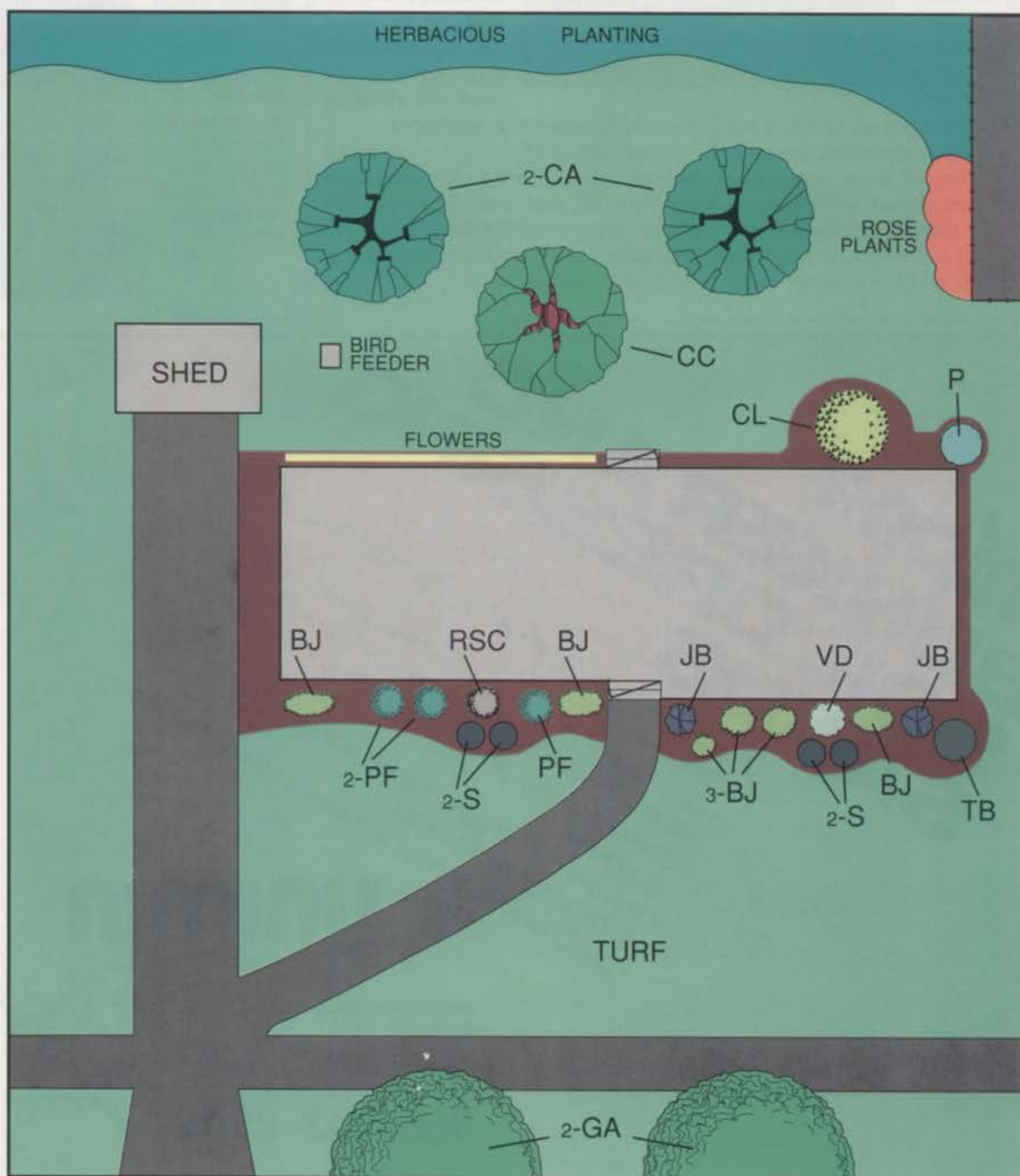
### TREES

- CC - CHOKEBERRY
- CA - CRABAPPLE
- GA - GREEN ASH
- CL - COMMON LILOC

### SHRUBS

- BJ - BLUE CREEPING JUNIPER
- JB - JAPANESE BARBERRY
- PF - POTENTILLA FRUTICOSA
- S - SPIREA

- P - PHLOX
- TB - TALLHEDGE BUCKHORN
- RSC - REDLEAF SANDCHERRY
- VD - VARIEGATED DOGWOOD





# Baited traps monitor insect populations, can predict outbreaks of pest activity

■ The most common use of chemical attractants is in traps to monitor insect populations.

Although not all of the compounds used in this manner are pheromones, many publications refer to all attractant-baited traps as pheromone traps.

For use in monitoring, chemical attractants usually are impregnated or encased in a rubber or plastic lure that slowly releases the active component or components over a period of several days or weeks.

Traps containing these lures use an adhesive-coated surface or a funnel-shaped entrance to capture the target insect. Traps for some pests are coated with an adhesive that also contains the chemical attractant.

Attractant-baited traps are used instead of or in addition to other sampling methods for two major reasons.

First, these traps are very sensitive and may capture pest insects that are present at densities too low to detect with a reasonable amount of effort using other inspection methods. This attribute can be extremely important when the goal of a sampling program is to detect foreign or "exotic" pests as soon as they enter an area so that control measures can be initiated immediately.

Second, traps baited with chemical attractants capture only one species or a narrow range of species. This specificity simplifies the identification and counting of target pests.

Sensitivity and specificity make attractant-baited traps efficient, labor-saving tools.

Attractant-baited traps are used in monitoring programs for at least three purposes:

- to detect the presence of an exotic pest, which is an immigrant pest not previously known to inhabit a state or region;
- to estimate the relative density of a pest population at a given site; and
- to indicate the first emergence or peak flight activity of a pest species in a given area, often to time an insecticide application or to signal the need for additional scouting.

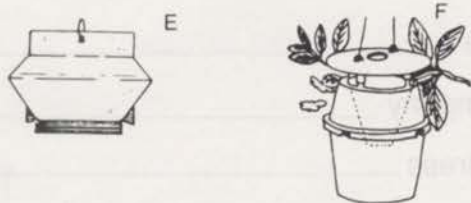
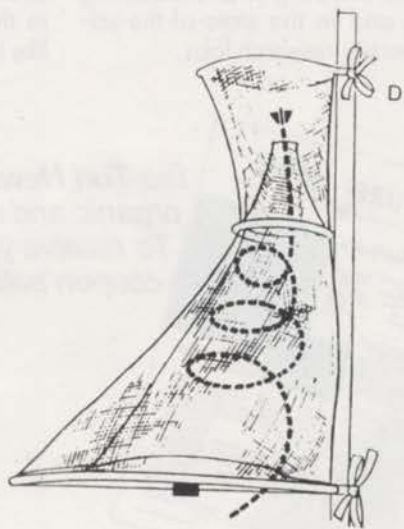
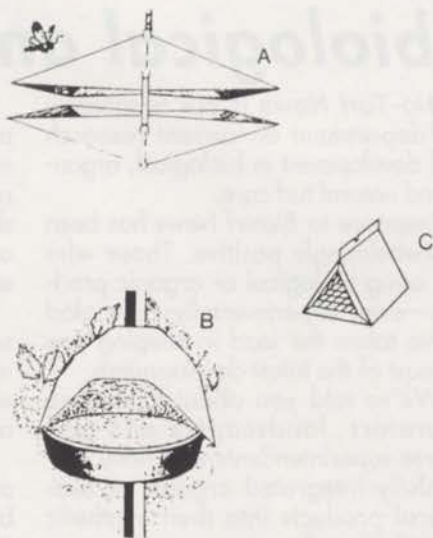
The use of traps to detect exotic pests has been demonstrated in widely publicized efforts to detect and eradicate pests such as the gypsy moth and the Mediterranean fruit fly whenever infestations are detected in new areas.

Although attractant-baited traps give an indication of pest density, several factors make the interpretation of density estimates complex and difficult. First, environmental factors affect trap catches. Temperature, rainfall, and wind speed and direction influence attractant release from lures and insect flight. Many insects fly and respond to baits only at certain times, such as dawn, midday, dusk, night, etc. and then only if temperatures at that time exceed a minimum level (often 50° to 60° F).

Wind speed and direction determine the extent of insect movement from surrounding areas to traps within a field or orchard.

Further complications can result from the fact that almost all attractant-baited traps are used to capture adult insects.

Attractant-baited traps can be used to signal the need for additional sampling efforts for to time insecticide applications and eliminate unnecessary spraying.



Commercially-available traps used for monitoring insect populations include: (A) the "wing" trap; (B) the water pan trap; (C) the Delta trap; (D) the Heliothis trap; (E) the Perocon II trap; and (F) the funnel trap. Other designs are available.



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