

GROWTH IN TREE FERTILIZATION LINKED TO PROFESSIONAL METHOD

The value of property has risen significantly in the 1970s and with it the value of trees on property. It is curious why proper care of trees hasn't escalated at the same rate as property values.

A tree in the 15 ft. category installed easily costs the homeowner or business \$80. A small investment in annual fertilization is more than just a good idea, it is insurance.

The success of lawn care companies suggests that property owners are aware of the increased value of their landscape. Shouldn't this same realization of worth effect the tree care business? Perhaps it has to a degree, but tree care business has not appeared on anyone's list of greatest opportunity lately.

Residential and small industrial maintenance had been left to the small landscaper until lawn care companies, some of which were landscapers, cut right in with lawn maintenance.

The same complete care package could work well for trees. The package could be pruning, fertilization, and repair of winter damage in the spring; insecticide and fungicide treatments in late spring and summer; and mulching, fertilizing, and necessary winter preparation in the fall. The entire program could be one contract at a price per visit.

But like lawn care, tree care will need a universal technology to blossom. Although many lawn care companies are dry, the liquid spray technology made it boom. It became a unique occupation with the emergence of the tank truck.

The same type of technology is needed for tree care to boom.

The choices of fertilizing established trees have increased in number in the past five years. Most recently developed are the tree spike or capsule and the slow-release, ground-injected suspension. The system of injecting fertilizers, insecticides and other chemicals directly into the tree is also relatively new.

Perhaps the oldest method considered professional is the drilling of holes for insertion of dry fertilizer. And lurking behind all these methods, is the very practical, extremely simple method of surface application.

The success of lawn care spray rigs can be attributed to speed of application, rapid and dramatic improvement in the customer's lawn, the outdoor advertising value of the tank truck, professional brochures, and the ability to plan routes accurately and efficiently.

The spray rig has been successful despite much higher equipment costs.

The companies who perform the same tasks with dry chemicals have adapted to the benefits of

well-marked vehicles, reliable, one-man application methods, and efficiency. Another factor increasing efficiency is the routeman receives a healthy percentage of the business.

These same reasons for success can be utilized in tree care, when a dominant technology is chosen by professionals and recognized by the customer to be professional.

To determine the best, most professional method, each method must be examined for effectiveness, economy, and professional image. Comparative tests are needed which include all the methods.

Effectiveness

For established trees to achieve maximum health and growth, they should receive 5-6 lbs. of nitrogen per 1,000 sq. ft. of soil surface underneath. This area can be figured by multiplying the distance in feet from the trunk to the drip line (the radius) by itself, and then multiplying by 3.14 (known as pi).

For example, a tree that has branches extending out from the trunk 8 ft. would have surface area underneath totalling 200 sq. ft. ($8 \times 8 \times 3.14 = 200$). Consequently, the tree requires one lb. of nitrogen.

If the fertilizer being used is 10-5-5, then ten percent of the fertilizer is nitrogen, and ten lbs. of fertilizer need to be spread uniformly under the tree to give the tree one lb. of nitrogen.

All these figures can be computed ahead of time and made into a table (see table 1).

Not all methods of tree fertilization provide five lbs. of nitrogen when used as directed on the label, notably tree spikes and capsules. However, manufacturers of these products claim improved leaf growth and appearance of trees fertilized with their products. The question is, does the method provide improved growth and appearance to the level desired by a customer? *

Tests have shown when nitrogen is applied at fractions of the recommended amount, it does not produce results proportionate to the fraction.

Also, it is recommended that a third to a quarter of the nitrogen be in slow-release form.

The amount of phosphorus and potassium does not appear to be critical in tree fertilization unless a deficiency exists. Generally, these elements should be a third of the nitrogen amount of the fertilizer (i.e. 12-4-4). It has been shown that phosphorus and potassium do not migrate to the roots as well as nitrogen, which limits their effectiveness when applied to the surface.

Economy

Two critical factors in the economy of a method are labor and equipment.

The only equipment needed to place tree spikes is a hammer. Surface application requires only a spreader.

Tree injection requires a drill (or hammer). Vertical hole drilling requires a large drill or rod (in soft soil).

Liquid injection requires the most equipment, including a pump, tank, agitator, and injection nozzle.

From a time standpoint, drilling methods take the most time. Tree spikes probably take the least, followed by surface application, and soil injection.

The two least costly methods appear to be spikes and surface application. However, spikes do not provide the recommended five lbs. of nitrogen, and are actually more expensive on a cost per lb. of nitrogen basis. Surface application carries the threat of burning out turf in the area around the tree.

Soil injection, whether with solutions or suspensions, is the next choice from a time standpoint. However, equipment costs are high.

So, we are back to drilling, thus the dominance in the recent past of the vertical hole method. Equipment costs are higher than spikes or surface, but only a fraction of a spray unit.

The concept of drilling into the tree has not really achieved customer acceptance. People have

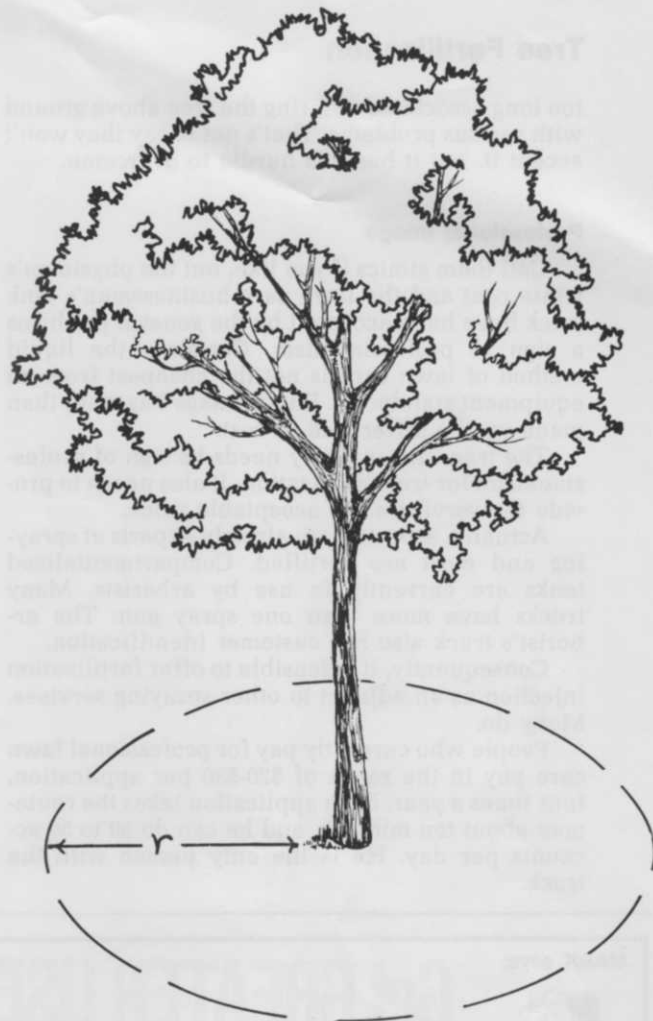


Table 1: Surface Area and Nitrogen Requirement According to Tree Size.

Radius*	Surface Area**	Nitrogen Needed	Lbs. N in Fertilizer	Lbs. Fertilizer Needed
3	28 sq. ft.	1/6	10	1 1/3
			12	1 3/4
			15	1 3/4
5	78	1/2	10	5
			12	4 1/6
			15	3 1/3
8	200	1 1/2	10	12
			12	10
			15	8
10	314	1 1/10	10	19
			12	15 3/4
			15	12 1/2
12	452	2 1/4	10	27 1/2
			12	22 3/4
			15	18 1/2
15	706	4 1/4	10	42 1/2
			12	35 1/4
			15	28
18	1,017	6	10	60
			12	49 1/2
			15	39 1/2

* distance from trunk to drip line.

** r² x 3.14 (pi)

Tree Fertilization

too long associated entering the tree above ground with serious problems. That's not to say they won't accept it, but it has this hurdle to overcome.

Professional Image

Call them gimics if you like, but the physician's white coat and the lawn care businessman's tank truck have been accepted by the general public as a sign of professionalism. Certainly the liquid method of lawn care is not the cheapest from an equipment standpoint. But its image has more than made up the difference in cost.

The tree care industry needs its sign of professionalism for tree fertilization. It also needs to provide the service at an acceptable price.

Actually, arborists are already experts at spraying and most are certified. Compartmentalized tanks are currently in use by arborists. Many trucks have more than one spray gun. The arborist's truck also has customer identification.

Consequently, it is feasible to offer fertilization injection as an adjunct to other spraying services. Many do.

People who currently pay for professional lawn care pay in the range of \$20-\$30 per application, four times a year. Each application takes the route-man about ten minutes, and he can do 30 to 50 accounts per day. He is the only person with the truck.

But, for a route devoted just to tree fertilization, the standard arborist vehicle and crew would be impractical. It is doubtful whether a homeowner will pay more for tree care than lawn care (fertilization only). A second type of vehicle specifically for one of the methods of tree fertilization is needed.

Professional image is difficult to earn when the person is doing essentially the same thing that a customer can do himself. This includes spikes, surface application, to an extent vertical hole punching and foliar spraying. Foliar spraying has not done well in tests either.

The most unique method having the characteristics necessary for customer identification is the soil injection method. If this method could be developed into a route similar to lawn care, there may be great potential.

The vehicle must be unique and attractively marked, operated by one person, and efficiently routed. Promotion must be high quality. Route managers must be rewarded well for their efforts.

This type of large scale marketing may be too much for some firms, but lawn care has shown it can be done. Volume is the only way to keep prices down at an acceptable level.

There is a need for professional tree fertilization, but it hasn't yet been put into a form that customers will readily accept and then demand.
Bruce Shank

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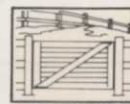


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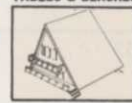
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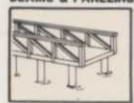
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