



# What's new with hydroseeding?

**Will this method improve your operations? New technology is making this process more useful**

BY AL SCHRAND

**T**he most surprising thing about hydroseeding may be that, while the technology has been widely recognized as the most efficient means of applying seed and mulch for lawn establishment, a 1999 industry survey reveals that only 15% of landscape contractors offer the service.

An industry insider recently commented, "Most landscape contractors still don't understand hydroseeding." One reason may be that hydroseeding seems too complex, too mysterious. Truth is, hydroseeding is basically common sense. And, for those who add the service, it can be extremely profitable.

#### **Hydroseeding 101**

The profitability of hydroseeding is based on efficiency, especially attractive in

today's labor-starved market. The primary appeal of hydroseeding for lawn and turf establishment is that it is a single-step, one- or two-man process. Hydroseeding offers distinct advantages when circumstances require minimum labor, uniform growth with high survival rates, rapid erosion control, fast green-up, precise application in tight areas or quick regeneration of difficult areas such as slopes, ditches or berms.

Profit is not the least consideration. Hydroseeding provides the contractor with generous margins depending on applications in residential, commercial or public sectors. It's this profit that has many contractors buying their own equipment and promoting the service, as opposed to subcontracting to hydroseeding specialists when job specifications leave them no other option.

In recent years, a new generation of low-cost equipment has become available, encouraging rapid growth in hydroseeding for landscape applications. Depending on who you talk to, the new equipment can be a double-edged sword. Entry-level equipment costs less to buy, but if results don't live up to expectations, some contractors sour on the technique.

Others work hard at perfecting their performance so that they are soon buying larger equipment to meet demand for hydroseeding. What makes the difference?

While there's no substitute for experience, an understanding of the basics can go a long way toward achieving a substantial profit stream.

#### What is that green stuff?

Hydroseeding is something like spraying a "stew" on prepared soil. Water is the carrier and fiber mulch is the primary vehicle for delivering seed, fertilizer, tackifier (to help hold fibers together) and other ingredi-

ents directly onto the soil surface. The result is a temporary micro-environment ideal for seed germination and establishment. While mulch fibers come in a range of types, there are two primary kinds: wood fiber and paper fiber. Fiber manufacturers offer various mixtures of the two basic fiber types, sometimes mixed with tackifier.

#### Selecting equipment

The introduction of lower cost equipment has helped increase the popularity of hydroseeding. One of the key considerations for equipment selection is the type of agitation inside the unit. A consistent slurry is critical to hydroseeding success. Left standing, the suspension of water, seed, fiber mulch and other ingredients will separate into solid and liquid.

There are two primary ways to maintain a consistent slurry in the tank: jet agitation and mechanical agitation. Jet agitation works like the ports in a hot tub.

Mechanical agitation involves paddles rotating inside the tank.

Units with jet agitation are not designed to handle today's thicker, heavier bonded wood fiber matrix mulches often used for erosion control. For these units, cellulose fibers are preferred because they are easier to keep consistently mixed inside the tank. On the plus side, units with jet agitation systems can cost significantly less to purchase and often make good entry-level machines for contractors wanting to test the hydroseeding market with minimum investment.

Hydroseeding units with mechanical agitation systems have a higher initial cost because of the more complex machinery involved. These machines are capable of applying the thickest slurry mixtures, which can result in better erosion and runoff resistance, better germination and survival and faster green-up. These are all key factors that can lead to customer satisfaction.

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## Hydroseeding basics

Hydroseeding slurry containing seed, mulch fiber, tacking agents, fertilizer and other ingredients is applied to prepared soil. With reasonable temperatures and adequate watering, turf can be fully established in two to four weeks at about 1/3 the cost of sod, and without weeds.

The distinctive green color is produced by a biodegradable dye. The color is intentionally different than that of natural grass so that operators can tell where they have applied material. The green color fades to tan or light brown within a few days as grass blades emerge and mulch decomposes.



Top, the two-acre landscape at this new suburban Ohio home was barren before hydroseeding.

Left, two weeks later the lawn was lush and green.

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faction, good word of mouth advertising and a growing, profitable hydroseeding business.

Another important consideration in selecting equipment is size. What kind of jobs will you be doing? Units with 300- to 500-gal. capacity can hydroseed an average 4,000-sq.ft. lawn in one load. Many contractors find that smaller units, while less expensive to buy, may hinder productivity. Units in the 600- to 900-gal. range, are ideal for 1/4-acre lots. Units in the 1,000-gal. and larger size allow contractors to do multiple small jobs with one load and to work on larger sites such as sports fields, commercial construction and some small erosion control applications.

When it comes to making an equipment decision, doing your homework pays off. Professional associations can provide a membership directory of noncompeting contractors who you can call with your questions. Your equipment decision will be based on what's most important to you:

initial cost, reputation of the manufacturer, service after sale and advice and support.

#### Soil preparation

This is one of the best ways to guarantee a satisfied customer. The work pays off handsomely, making it well worth the effort. While every site has its own set of problems, here are some basic considerations.

New construction sites are notorious for leaving little good soil for landscape crews to work with. Adding as much as 2 to 4 in. of topsoil to a tough clay subsoil surface may be required for best results.

Renovation work can also require extensive preparation. The ideal soil will have good drainage, a pH between 6.0 and 6.5, at least 5% organic matter (by volume) and be relatively free of rocks and large stones.

Perennial weeds should be destroyed with an herbicide such as Roundup® or Finale®. A pH level of 6.0 to 6.5 is important for the grass plant to get the most out of soil nutrients. A pH level that is less than 6.0 indicates that there is too much acid in

the soil, and lime should be applied to neutralize it. A pH level greater than 7.0 indicates alkalinity, and sulfur should be used to make the soil more acidic.

#### Test when uncertain

Soil may also be lacking in certain nutrients. A test provided by a local extension service or soil testing lab will help you determine exactly which fertilizers your hungry soil is craving. Based on test results, your fertilizer dealer can help you choose the right formulation. If needed, organic amendments such as compost, peat or well-rotted manure should be tilled into the soil 4 to 6 in. deep.

For new construction, best results are usually achieved when the rough grade is finished with a landscape tiller or similar tractor-powered unit. These soil preparation tools make short work of rocks, clumps and uneven terrain and provide a smooth, loose soil surface ready for hydroseeding.

### Look on the 'Net

New mulch types are constantly being made available from a large number of suppliers. An internet search under "hydro mulch," "mulch fiber," and "hydroseeding mulch" will provide links to most of them. Mixtures of 100% wood fiber, 100% paper fiber and many blends of various ratios in between are available. Some come with various amounts of tacking agent included. A reputable local mulch dealer is the best person to recommend what kind will give you the best results in your area.

One significant advance in hydroseeding technology is the development of a simplified system of hydroseeding additives that takes the guesswork out of slurry mixtures. In addition to water, seed and mulch fiber, there are many potential ingredients in the "stew."

Finn Corp., which originated the hydroseeding technique in 1953, has researchers who sought to create the optimum combination of ingredients from "the seed's point of view." This combination would stimulate germination and optimize erosion and runoff protection during growth. The culmination is what the company calls the HydroSeeder® additive system.

Early results have been encouraging. Research at Southern Illinois University, headed by Dr. She Kong Chong, Professor of Soil Physics and Hydrology, Department of Plant and Soil Science, showed the new combination of additives stimulated uniform germination of fescue seeds in four days. Similar results were seen on slopes of varying degrees with enhanced root development and rapid soil stabilization.

### "Inch-a-week" results

A recent application of this new system helped a Cincinnati homeowner save nearly \$10,000 compared to sod installation for a new two-acre lawn. Two weeks after hydroseeding, the grass was two inches high with even coverage, an indica-

tion of uniform germination. The grass blades exhibited an unusual degree of turgidity; that is, after stepping on the grass it springs back upright rapidly. Roots were four inches deep after four weeks and the grass had been mowed lightly two times. Lighter, more frequent mowing reduces stress on new growth, and the clippings add organic matter to the soil.

Homeowners Ken and Jennifer Klekamp commented, "We were surprised to see our new lawn grow in so fast and thick. We could have laid sod for a lot more money, but waiting a couple of weeks was not only worth the savings but worth the time because the results are better."

The new system makes the best use of the single-application benefits unique to hydroseeding. Applied in one step, the "cocktail" ingredients include germination enhancers, soil amendments for nutrient and moisture retention, soluble fertilizers designed for emerging seeds, liquid lime to help adjust soil pH if required and beneficial bacteria to encourage proper nutrient exchange in newly worked soils.

### New spray options

A new equipment development helps make hydroseeding equipment more productive. Small units can now be ordered with an attachment that allows spray application of material normally applied in dry form, such as dolomitic lime, fertilizers, pesticides and other dry materials. The idea is to create a liquid suspension or solution with the dry materials to make application faster and combine soil and foliar applications into a one-step operation.

Such an attachment would take advantage of a hydroseeder's combination mechanical agitation and liquid recirculation system to keep mixtures in suspension with no material settling. One nozzle produces a 30-ft. wide "flood" spray that is consistent from edge to edge. Other nozzles are available to fit different needs. The

advantage is that different materials can be thoroughly mixed in a single tank, then applied in one step. A hose attachment is available for treating areas such as residential lawns.

These new mix and spray capabilities allow a customized, one-step spray application for routine turf care. For contractors, it's a labor saving option that makes additional use of the hydroseeding equipment.

### Expanding opportunities

Hydroseeding contractors may soon find municipalities much more receptive to their service. A recent change in U.S. Environmental Protection Agency storm water runoff regulations have made it necessary for municipalities to treat bare soil in any area greater than one acre as a means to help control runoff pollution in waterways. This is a change from prior regulations exempting sites under five acres from revegetation treatment.

Because hydroseeding is a fast and economical solution for controlling runoff and erosion, this change may be a source of additional income for aggressive contractors in high-growth areas where municipalities are involved with construction and renovation activities, from roads to parks and recreation, green spaces and other construction projects.

The future of hydroseeding appears strong because it is proven to reduce labor, increase customer satisfaction and provide new options for savvy contractors. **LM**

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