

Liquid Fertilizers have Many Benefits

Liquid fertilizers can save money in the long run by lowering labor costs

Ensuring plants make the most of fertilizer applications is good for business and for the environment. Liquid fertilizers can be accurately applied in small amounts, keeping nitrogen levels low. Plus, they save labor costs.

Labor savings in the nursery

Lauro Torres, production manager at Waldron Farms in Phoenix sums up a big benefit of liquid fertilizers: "Granulars are a pain to dilute in water," he says "Liquid is easier."

Torres says the 14-7-14 liquid fertilizer he uses from Growth Products, White Plains, N.Y., saves him time and aggravation. "When we used dry fertilizer, the pumps were getting a buildup in them," he says. "We had a lot more pump repairs with the dry fertilizers."

Torres also had problems storing dry fertilizers. "We had moisture get into the bags and they were running," he says.

Now Torres says other nursery owners have visited Waldron Farms and asked how they grow such nice plants and trees. The 7-year-old operation consists of a 4-acre nursery and a 10,000-square-foot greenhouse.

"I told them we're not doing any magic tricks here," Torres says. "I told them what we use and now a lot of them — even the ones who have been here for 30 years — have switched to liquids."

Torres applies about 40 ppm of the liquid fertilizer twice a day with each irrigation. He says even with a rate that low, the fertilizer acts fast. "You can see results right away," he says. "That's another benefit."

Torres settled on 14-7-14 on the advice of consultant David Plant from IAS Laboratories. Plant worked with the operation part-time for about 18 months. He analyzed different fertilizers and found Growth Products' 14-7-14 to be low in salt.

"We already have salt in our water,"

Torres says. "The added salt in fertilizer was just doing more damage."

The only drawback Torres notes is that the 14-7-14 raises the soil pH when it is applied. "We have to inject acid to bring the pH down," he says. "That's not a big deal because we need the acid anyway since our soil pH is on the high side."

Runoff control on the golf course

"Control of runoff is our No. 1 concern," says Martin Howard, golf course superintendent at Ocean Trails Golf Course, Rancho Palos Verdes, Calif. "We spoon feed our fairways, greens and roughs with liquid fertilizers because we're trying to keep nitrogen levels low."

Even though water from the golf course drains into lakes on the course, Howard says he wants to make sure he is being good to the environment by

limiting runoff. For Howard, "spoon feeding" means applying about 1/4 lb. of nitrogen per 1,000 square feet on fairways and 1/10 lb. of nitrogen per 1,000 square feet on greens.

"We apply liquid fertilizers every 14 days," Howard says. "I have two full-time guys who do it."

Even with that much application frequency, Howard still thinks he saves money using liquid fertilizers. Though liquid fertilizers cost a bit more than granular fertilizers, Howard says he likes liquids because of their application accuracy. Ocean Trails Golf Course consists of rolling hills and many uneven contours, making it difficult to get granular fertilizers exactly where Howard wants them.

"With the shapes and contours we have here, it's hard to get accurate with granules," he says. "I'd have to send people out to spread granules by hand."



Lauro Torres, production manager at Waldron Farms, Phoenix, poses behind the nursery stock that he nourishes with liquid fertilizers.

With the liquid fertilizers, we use a spray rig and a foamer. It's more efficient in terms of man hours."

Howard has tried different liquid fertilizers, and has settled into a program from Growth Products. He says the program keeps nutrient levels constant, which is better for the turf.

When giving the course just the amount of fertilizer it needs, it's critical to not misjudge the nutrient requirements. Howard does spot soil tests four times a year and one complete soil test each year.

"We're kind of on the edge — apply-

ing just enough fertilizer to control runoff," he says. There's not much wiggle room."

Testing fertilizers in the landscape

In a landscape, fertilizer applicators need to address various soil types, the simultaneous fertilization of monocots and dicots and the slope of the land. Sloped land has often been compacted to make it stay in place to the point where it is like concrete, says Michael Frilot, supervisor of StayGreen Corp.'s Plant Health Care Department in Valencia, Calif.

"The biggest mistake people make is not keeping up on soil, water and tissue

tests," says Frilot. "The choice of fertilizer is important, but you need the science of testing to make that choice."

Frilot recommends biannual testing and additional tests for problem areas as the need arises.

"What you'll find is that even if you're educated, you're guessing without testing," Frilot says. "Tests take the guesswork out of it." ©

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Types of Tests

Consultant David Plant from IAS Laboratories is trying to take the guesswork out of greenhouse fertilization using phytomonitoring sensors from an Israeli company called Phytech. The sensors monitor leaves, stems, fruit and sap flow of plants.

"It measures moisture content, temperature and expansion/contraction of stems or branches to determine when to water and fertilize different species," Plant says.

The system, which consists of small sensors attached directly to plants and connected to a computer, currently costs \$11,000 for the complete setup. Plants says the system allows growers' liquid fertilizer to go two-and-a-half times as far, plus yields beautiful plants and trees.

"It put us on another plateau as far as production is concerned," Plant says. "Our plants have been so good that in the last month, landscape architects can't believe they've been grown in Arizona."

While the Phytech system may represent the future of testing, current soil, water and tissue tests are tried-and-true methods of overcoming the factors that limit fertilizer efficiency. Without testing, time and money can be wasted.

More information on the Phytech system can be obtained by contacting Plant at 602-273-7248.



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