

Helpful hints for tank-mixing your pesticides, fertilizers

Watch for foaming and gel formation when mixing pesticides and fertilizers in tanks, says an agronomic consultant.

■ Former Purdue University agronomist Jeff Lefton, now an independent consultant, reminds us that "pesticides are not perfect," that they rarely get 100 percent control, and that sometimes mixing errors make them even less effective.

"We have to understand where the problem is—in the leaf, the crown or the roots—and then target one chemical to the problem.

"There's a lot of information on the label," Lefton says. "But many times we don't read the label or the information we need isn't on the label. That's when you have to learn from your experiences. You have to keep a lot of notes."

Here are some cardinal rules Lefton says to keep in mind when mixing pesticide and fertilizer products:

1) Only one soluble chemical can be

tank-mixed with one or more insoluble chemical.

2) If two soluble chemicals are tank-mixed, you can avoid phytotoxicity by cutting the rates in half.

3) All insolubles can be tank-mixed without phytotoxicity, as long as you use recommended rates.

4) Do not mix organic fungicides with alkaline compounds or with insecticides using xylene as a solvent.

5) Never mix a contact fungicide with a subsurface insecticide.

"Try mixes on a test area similar to where you plan to apply," Lefton suggests. If they are physically incompatible, you will probably see one of the following indicators:

- * precipitation
- * foaming
- * gel formation
- * flake formulation
- * separation of components

When tank-mixing, tanks should first be filled to one-fourth capacity with water, and agitation should begin. Then add fertilizer first, followed by any wettable powders or wettable dry granules (pre-slurry).

Liquids, flowables or solubles should be



Photo courtesy of ChemLawn Services Corporation.

next, followed finally by emulsifiable concentrates.

Lefton says to watch out for alkaline hydrolysis, which can occur under high water pH. "Some compounds have very short residuals, sometimes just hours," he says. "Temperature, salts and formulations also affect alkaline hydrolysis."

Powder Blue, liquid ureaformaldehyde, fluid lime and water are all high-pH, as are many cleaning detergents.

To avoid alkaline hydrolysis, Lefton suggests:

- 1) checking pH;**
- 2) using a buffer to bring the pH down to 5.5 to 6.0; and**
- 3) applying the same day as mixing.**

In summary, Lefton says:

- 1) Collect all the information you can.**
- 2) Use a jar test, or test the tank-mix on a test area.**
- 3) Know the solution's pH.**
- 4) Use the right product for the right problem.**

— Jerry Roche

Mercurial costs merit close tracking

Direct and indirect costs must be passed on to customers if you want to stay profitable.

■ If you don't track increasing costs carefully each year, profits will shrink before you know it, says Bill Hoopes of Barefoot Grass.

Hoopes defines **direct costs** as those costs which are closely identifiable with

the rendering of service, including trucks, product and labor.

An **indirect cost** is one not directly identifiable with rendering of service, and includes rent or utility bills.

The gross profit margin—or the sum total of sales minus the direct costs—can dip dramatically when costs increase, as they are sure to do each year.

What happens when costs change, but business people fail to react?

"Assume you have 1,000 customers," says Hoopes, "each paying \$200 per year

for lawn care (five treatments each year at \$40 each); your revenue is \$200,000."

Gross profit is now \$73,500 and has dropped from 40 percent to 36.75. Selling and administrative costs have jumped by 0.4 percent (\$2,000). It's now \$52,000 or 26 percent, further eroding bottom line.

Before-tax profit is now \$21,500 (10.75 percent).

More than 28 percent of profit has been lost to cost increases.

"You could increase sales," suggests Hoopes, "but the percentages will stay the same. If you don't think you can get more efficiency from labor, and can't control price increases, you have to pass it along to customers in the form of a price increase.

"If your treatment price per customer is \$40, the example shows a 4.25 percent

drop in profit," explains Hoopes. "So to equalize the \$8500 loss—from 30 percent to 21.5 percent—we need to raise prices 4.25 percent. All that means is \$1.75, which is not critical."

The downside risk is the chance that you won't sell as many customers. So do you raise the price or try to get it from elsewhere? "If you don't (raise prices)," warns Hoopes, "28 percent of profit flies out the window."

Hoopes also offers some good advice for telemarketing and direct mail programs.

"Target your marketing, make sure it's specifically detailed, and keep a history of what you do and all results," he says. "As the year goes by, target what you do so you spend advertising and marketing dollars only when you believe it will bring a good return."

Hoopes made his remarks at the Green Industry Expo in Tampa, Fla.

—Terry McIver

Direct costs (as percent of sales) and annual increase assumptions

Labor	25% (6% increase each year)
Product cost	20% (5% increase each year)
Vehicle costs	15% (5% increase each year)
Selling/administrative costs	25% (4% increase)

Labor	\$50,000.
Product cost	\$40,000.
Vehicle costs	\$30,000.
Total sales costs	\$120,000. (60% of sales)
Gross profit	\$80,000. (40% of sales)
Sales/admin	\$50,000. (25% of sales)
Before tax profit	\$30,000. (15% of sales)

Cost increase assumptions:

Labor	(up 6% or \$3,000).....	\$53,000. (26.5% of sales)
Product.....	(up 5% or \$2,000).....	\$42,000. (21% of sales revenue)
Vehicles ...	(up 5% or \$3,000).....	\$31,500. (15.75% of sales)
Total sales costs		\$126,500. (63.25% of sales)

Independent go-getter finds new profit centers

If it's not a nursery, it's a community composting facility for this Kansas City entrepreneur.

■ John Cazzell, one of the industry's original lawn care operators, found a new way to make money.

How's that? He opened a garden center.

In September, 1990, Cazzell—owner of Four Seasons Lawn & Landscaping in Kansas City—opened a seven-acre garden center that was immediately profitable, enabling him to cope with the slowdown in business precipitated by the economic recession.

"I saw it as an opportunity to add to the services we had already offered," says Cazzell, who started out in lawn care back in 1977 as a part-timer while working with Norfolk & Western Railroad.

"Margins are narrower than they've ever been," observes Cazzell, pointing to increased fuel costs, increased machinery costs and the recession. Yet the nursery center has shouldered some of the burden of the economic times.

The nursery sold \$30,000 of materials

in its formative months, with virtually no start-up costs. (Of course, Four Seasons already owned the acreage adjacent to I-29 in a high-visibility area north of K.C.)

The Four Seasons Nursery Center sells Heartland storage barns for a 10 percent commission. The barns, set out next to the highway, "turn the eye," Cazzell contends.

"We have distribution rights on paving brick and walls, patio stones and so on," he says. "I think it's the thing of the future." Four Seasons handles 38 different types and colors of paving bricks.

Cazzell is always looking for a way to increase profitability. Next order of business might be a composting facility. He is on the Kansas City Waste Minimization Commission. Since a state law dictates that landfills not take landscape debris, starting this year, Cazzell has opened up part of his garden center land as a debris "re-cycling" center.

"We want to serve as a disposal drop-off point for the homeowner or small (three acres or less) commercial business," he notes.



Nursery manager Linda Mills helps build a profit center for Four Seasons owner John Cazzell.

He plans to disc and till the debris into the soil with a farm tractor and re-sell the matter as topsoil. "One cubic yard of soil becomes two or two-and-a-half cubic yards of rich topsoil," he contends. What's more, he's working on a possible plan to lease more land through the city (for \$1 an acre) and use it as composting fields.

Do all these projects mean he's busy? You bet.

"Anybody can buy a mower and go mow an industrial complex and make \$300," he says. "But what he does with the \$300 is the key."

That philosophy and work ethic has helped Four Seasons grow from a \$15,000-a-year odd job to a \$1.2 million business last year. That, and John Cazzell's ability to see the future.

—Jerry Roche