GROWERTALKS

Features

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Profitability in the Greenhouse: A Practical Guide to Cost Accounting

Bill Swanekamp (condensed by ChatGPT)

For those of you who struggle with the concept of cost accounting, we decided to try something: We took six excellent articles on the topic by long-time master-of-cost-accounting Bill Swanekamp, former owner of Kube-Pak in New Jersey, and we asked one of the top AI tools, ChatGPT, to edit them together into one concise summary of the topic. Then we asked Bill to check ChatGPT's work, to make sure it was still accurate (it is, albeit a bit too simplified for Bill's taste). Hopefully, this simplified version will help drive home the concept of cost accounting with those of you who struggled with the topic. And if you want to do a deeper dive, we've listed the titles and publication dates of the six original articles at the end.

Let's face it—there's hardly a topic that makes growers break into a cold sweat faster than cost accounting. Numbers? Spreadsheets? Allocating overhead? We'd rather darn near do anything else. But if we ignore the math, our business will eventually ignore us—right into bankruptcy court.

So let's remove the fear and get down to brass tacks. Cost accounting isn't an academic exercise. It's the foundation for answering the single most important question in horticulture:

Are we making money or losing it?

If you don't know the answer—really know it—you're farming on hope. And hope is not a business plan.

This guide combines years of experience, trial and error, and lessons learned the hard way. We'll walk through:

- How to calculate and apply overhead
- Why space utilization matters (and how to measure it)
- The right way to cost hanging baskets
- Seasonality and why one overhead number isn't enough
- Shrink—and why throwing plants away isn't free
- Enterprise modeling (the payoff)

Along the way you'll see a theme develop: Our intuition about costs is often wrong—and usually too optimistic.

Let's dig in.

Overhead: What it is and how to measure it

Overhead is simply the cost of running your business that isn't directly tied to a plant going in a pot. Think property

taxes, heating fuel, electricity, employee benefits, repairs, maintenance, depreciation, shop supplies, advertising, auto and truck expenses, bad debts, bank charges, interest expense, commissions, postage, telephones, and so on. These costs are real and unavoidable, whether or not a single crop sells.

To convert that mountain of expenses into something we can use, we break it down to a weekly cost per square foot of usable growing area.

“Usable” means growing area—not aisles, not shipping bays, not walkways.

Here’s the formula:
Total annual overhead
÷ Usable sq. ft.
÷ 52 weeks
= Overhead cost per sq. ft. per week

Industry average? Around $0.22/sq. ft./week.

An example:
Overhead: $7.213 million
Usable space: 630,000 sq. ft.
÷ 52 weeks
= $0.22/sq. ft./week

Now apply it to a crop. A bedding flat occupying 1.6 sq. ft for six weeks:
0.22 × 1.6 × 6 = $2.11 in overhead per flat

You may want to sit down before you run your own numbers. Most growers are surprised—and not pleasantly.

Seasonality: The uneven economics of a greenhouse
At first glance, overhead per square foot seems straightforward—until you realize it assumes you use 100% of your greenhouse space 52 weeks a year.

Spoiler: You don’t.

One way to look at this problem is to take the total number of usable square feet and multiply by 52. For example, with 1 million sq. ft., there are 52 million sq. ft. weeks. available for use through the year. If you then itemize each crop grown and the square footage that crop uses and multiply by the number of weeks it’s in the greenhouse, you have your actual sq. ft. wk. usage. So far, our data has indicated that we are using far less than 100% of the sq. ft. wk. throughout the year, perhaps as low as 50%. Why does that matter? Because you can only apply overhead to space with plants in it. Empty greenhouse floor is not a cost-absorbing asset—it’s a liability. Think of a barber with three chairs who only cuts hair in one. Can he divide his overhead across all three? Of course not.

Neither can we.

When we factored real space use into our model, overhead jumped dramatically. In our case:

- Winter–spring: 65% space utilization
- Summer–fall: 52% space utilization

As with space use, our costs don’t occur on an equal basis each week, either—they are incurred following the cycle of our peak production. We’ve found 76% of our gross sales for the year are generated January to May, and that 76% of our production costs (when supplies are used, not when they’re purchased) also occurred during that time.

This means that from June to December, only 24% of our costs and sales are recognized. Yet if we allocate costs uniformly over the year, it's impossible to know if fall crops are profitable. With this "differential overhead" method, we can see fall crops are indeed profitable, since a different value for overhead is used in the fall than in the spring.

For example, Kube-Pak has an average overhead of $0.22/sq. ft./wk., but we realize approximately 76% of our costs and sales January to May. So we recalculated our overhead to reflect this and realized our January to May overhead was actually $0.33/sq. ft./wk. and our June to December overhead was $0.073/sq. ft./wk.

Take our winter overhead of $0.33/sq. ft./week and divide by 65% usage:
$0.33 ÷ 0.65 = $0.508/sq. ft./week

Then add plug-fix shrink (20%):
$0.508 + $0.10 = $0.61/sq. ft./week

That's triple the original $0.22 figure.

The consequences?
1. Winter crops don't make as much money as you think.
2. Fall crops may be more profitable than they look.

Hanging baskets: not "free air Sspace" after all
There's a persistent myth that hanging baskets get a free ride because they don't sit on the floor. Wrong. Baskets are not free to grow:

- They're hung
- They're watered
- They're pinched, sprayed, spaced, sleeved, shipped

And they consume greenhouse "volume," even if not floor square footage. So we must assign space to baskets. But how?

Two methods exist:

Method	Result
Use the canopy spread (e.g., 2 sq. ft. plant → 4 sq. ft. used)	Over-allocates space and wipes out profit on paper
Use pot diameter (10-in pot ≈ 1 sq. ft.)	Realistic and profitable

Moral? Use the pot footprint, not the plant spread.

Charge your baskets their fair share of overhead—not a fantasy number that turns profit into loss on paper.

Shrink: The silent profit killer
I'll say what every grower knows but hates to admit: We don't sell everything we grow. That's called shrink, meaning plants that die or don't sell. It comes from disease, bad pH, poor germination, overproduction, bad weather, or poor quality.

When plants are tossed, their costs don't disappear—they get added to the overhead of the plants you do sell. That includes overhead costs (space, utilities, labor) and direct costs (plants, pots, soil, packaging).

Let's say overhead is $0.50/sq. ft./week and you dump 10% of the crop:
0.50 × 10% = $0.05 + 0.50 = $0.55

Even 5% loss bumps overhead to $0.525.

And direct costs hurt even more. If the inputs for a flat equal 75% of its selling price, you need to sell four good flats to cover the cost of throwing away one.

For finished crops, target shrink under 2%. For plugs, unfortunately, 10–15% is common.

Planning and growing skill matter. Waste money here and no accounting magic will save you.

Costing methods: Four paths—only one correct
Growers generally use one of four cost-tracking systems:

Method	Strength	Fatal Flaw
Year-end “whatever’s left is profit”	Simple	You can lose money all year and not know it
Macro costing (directs + flat overhead)	Better	Wrong for labor-heavy crops
Quickie (direct costs + labor x 2)	Fast	Works until the crop stays too long or labor cost spikes
Micro costing	Most accurate	Time-consuming

At Kube-Pak, we hybridize micro costing:

* Track direct labor to get a crop “to the bench”
* Track labor again “to pick & ship”
* Everything else = overhead

This method is accurate, doable and profitable.

An enterprise modeling: The reward for the work
If all this seems like work, you’re right. But here’s the payoff: enterprise modeling, which is the process whereby we look at space utilization, seasonality and shrink to determine the profitability of each crop that we produce.

With enterprise modeling:

- You can select more profitable crops
- You can reduce or eliminate low-margin ones
- You can adjust pricing with confidence
- You can allocate space, labor and capital intelligently

Without enterprise modeling, you’re guessing. With it, you’re running a business.

For instance, let’s compare a 5.25-in. petunia started from a 288-plug versus a 162. In our case, the profit margin is greater from a 162-plug. Why? Because even though the cost of the 288-plug is half that of the 162 (about 5 cents vs. 10 cents), the time on the bench for the pot planted with 162s is only four weeks, vs. six weeks for the pot planted with 288s. That extra two weeks on the bench costs us more than a dollar!

This highlights how expensive greenhouse space really is, and when more of the growing time should be spent in the close quarters of a plug tray rather than in the final pot size.

Managing the “Fat Factor”
Even the best math collapses if the day-to-day operation gets sloppy. Labor expands to fill comfort rather than necessity. Good people mean well—but they add bodies to a task until it “feels right.”

You must track labor production daily and compare to last year. Visibility prevents bloat.

In business—as in waistlines—fat creeps in quietly. The scale doesn’t lie. Neither does a spreadsheet.

Final thoughts: The road to profit

If you've read this far, congratulations. You're already ahead of most growers who let the fear of bookkeeping keep them from knowing their numbers.

To stay profitable:

1. Calculate true overhead
2. Measure space use weekly
3. Apply seasonal overhead
4. Assign basket overhead properly
5. Minimize shrink
6. Track labor daily
7. Model each crop's profitability

Do this, and you'll stop hoping for profit and start engineering it.

Because at the end of the day, gardening is love and joy—but the greenhouse business is arithmetic, discipline and truth. And truth, even when it hurts, will keep the doors open.

Use your space wisely. Track your labor ruthlessly. Know your numbers.

And remember: If you grow it, you'd better sell it. The dumpster doesn't write checks. **GT**

> **For more:**
> *Profitability: The New Economics (November 2008, page 64)*
> *Use It or Lost It (March 2012, page 68)*
> *Hanging Baskets: Free Space or Not So Free? (July 2012, page 76)*
> *Cost Accounting: Seasonality (November 2012, page 96)*
> *Cost Accounting: Shrinkage (March 2013, page 88)*
> *Cost Accounting: Enterprise Modeling (July 2013, page 82)*
> *Find them all at growertalks.com/article/archive*