Increasing Greenhouse Utilization and Turns

MAKING A FEW SIMPLE ADJUSTMENTS TO YOUR PRODUCTION CAN MAKE A BIG DIFFERENCE TO YOUR BOTTOM LINE.

By Mike Goyette

It's the holy grail of the greenhouse industry — how to maximize greenhouse utilization without maxing out your budget and your labor. With a few simple adjustments and some savvy planning, you'd be surprised what a difference you can make in your day-to-day operations and your bottom line.

Crop Planning for Consistency & Quality

Customers demand precision and hitting dates with quality product in color is the standard. Color sells and turns quickly. Product that doesn't finish on time, or doesn't meet specifications, costs you time on the bench, narrows your selling window, erodes price and allows competition easy access to your customers.

Careful planning means it's easier to determine your costs. You know the actions and inputs that will be needed. Your results will be more repeatable, and you'll maximize your space. You can better determine your product mix and margin.

So where do you start? With a few simple steps:

1. Determine your product mix, specifications, quantity and selling window.
2. Space analysis – does it fit? Tweak your numbers to fit based on margin and mix.
3. Design new crop plans and adjust existing.
4. Review crop plans with your team.
5. Manage the plan, produce and sell.
6. Review the season.

Key Questions to Ask When Determining Your Mix

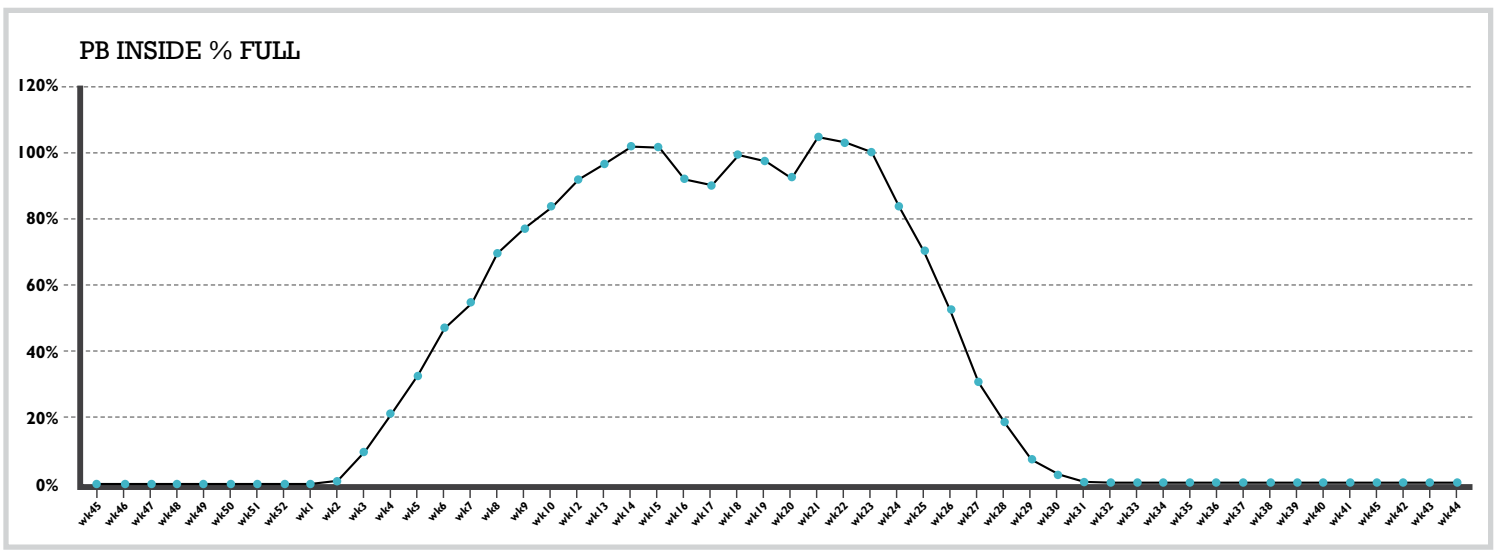
- What are the specifications? What is the customer expecting?
- What does the package look like? Colorful pots, sleeves, signage?
- How many did you sell last time? Review sell through.
- Has market demand changed? What's trending in and out?
- What was challenging to grow? Control shrink.
- What are the new items you will offer? Mix it up.
- How many can you grow/fit? Opportunity cost.
- Is it efficient to ship? How many can you get on a rack, truck?
- Are you making money? Mix, margin and shrink.

Analyzing Greenhouse Space

Space analysis in your greenhouse starts with two simple questions: Is there enough space and is it the right space?

Start by looking at your total inside space. How many cumulative spaces do you have on the floor or benches? Factor in the percent of area you're using. Look at space open, bays open, etc. Once you've got all of that in place, you can determine space available and maximum production you can achieve.

Loading it into a spreadsheet or software (such as the graph below and table on page 22) with information input according to crop week gives you a total picture of space allocation and utilization in your greenhouse, and allows you to track any trends and fluctuations as well as visualize your greenhouse. Once you've watched it for a while, you'll be able to adjust accordingly.



Loading your inside space into a spreadsheet according to crop week gives you a total picture of space allocation in your greenhouse.

Designing a Successful Crop Plan

In principle, developing a crop plan might sound simple, but once you actually sit down to start, it can be a bit daunting. Here are a few steps you can take to help ensure success.

The best time to plan for the next crop is right after the crop or season is complete, a season review soon after will help keep

TOTAL INSIDE

Type	wk2	wk3	wk4	wk5	wk6	wk7	wk8	wk9	wk10	wk11	wk12	wk13	wk14	wk15	wk16	wk17	wk18	wk19	wk20	wk21	wk22	wk23
Cum. 1020 spaces on floor	1,509	14,016	30,529	46,978	67,664	78,839	99,626	110,384	119,624	131,519	138,237	145,848	145,547	132,043	129,395	142,210	140,152	132,839	149,948	147,662	143,620	120,063
Area % used	1%	10%	21%	33%	48%	55%	70%	78%	84%	93%	97%	103%	102%	93%	91%	100%	99%	93%	105%	104%	101%	84%
Space Open	140,631	128,124	111,611	95,162	74,476	63,301	42,514	31,756	22,516	10,621	3,903	-3,708	-3,407	10,097	12,745	-70	1,988	9,301	-7,808	-5,522	-1,480	22,077
Bays Open	23.92	21.79	18.98	16.19	12.67	10.77	7.23	5.40	3.83	1.81	0.66	-0.63	-0.58	1.72	2.17	-0.01	0.34	1.58	-1.33	-0.94	-0.25	3.76
Pans Open	95.7	87.2	75.9	64.7	50.7	43.1	28.9	21.6	15.3	7.2	2.7	-2.5	-2.3	6.9	8.7	0.0	1.4	6.3	-5.3	-3.8	-1.0	15.0
Space Available - Max Production																						
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1,509	1,509	4,756	4,756	4,756	4,756	2,378	1,189	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	12,507	12,507	12,507	13,456	11,815	6,229	2,215	893	89	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	13,266	13,266	13,266	14,089	13,062	7,011	2,199	837	84	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	16,449	16,449	16,449	17,721	16,414	9,090	3,304	1,337	134	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	19,737	19,737	19,737	25,940	24,934	16,454	9,443	4,337	434	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	11,993	11,993	11,993	12,393	11,316	6,012	1,548	398	32	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	28,506	28,506	28,506	30,703	29,906	17,719	4,279	354	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	17,116	17,116	17,116	19,112	18,330	11,799	3,607	326	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	24,493	24,493	24,493	25,566	24,721	17,920	10,327	7,783	3,792	379	0	0	0	0
	0	0	0	0	0	0	0	0	0	27,207	27,207	27,883	27,216	19,583	11,755	2,673	422	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	20,644	20,644	20,644	17,128	15,147	6,746	2,066	111	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	29,689	29,689	29,689	26,176	24,424	7,542	2,458	34	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	26,368	26,368	26,368	23,147	22,180	5,518	2,207	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	17,363	17,363	17,684	17,684	17,684	4,774	1,957	118	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21,933	21,933	24,364	24,364	24,364	8,761	3,860	890

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Space Available - Max Production																					
	wk2	wk3	wk4	wk5	wk6	wk7	wk8	wk9	wk10	wk11	wk12	wk13	wk14	wk15	wk16	wk17	wk18	wk19	wk20	wk21	wk22	wk23
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37,819	37,819	54,194	54,194	54,194	31,661	14,987
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24,282	24,282	48,106	48,106	48,106	39,064
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,847	3,847	18,890	18,890	18,575
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,422	12,422	33,435	33,435
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,333	3,333	8,293
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,216	4,216
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	603
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

memories fresh. Before you start a new season, look over last season's review notes. Entertain fresh ideas. Repeat what worked well, and avoid what didn't.

Have one file source for your crop plans to avoid confusion and version issues, and designate one person responsible for making changes to the data. Assure changes are made to existing crop plans as changes happen throughout the year.

Use a spreadsheet, database or greenhouse software to store your information. Start with the basics — how many plants per pot, grow weeks and input size. Know your input and overhead costs; this will help you decide on the input size, plants per pot and grow weeks.

Setting up a color coding flag system can help specify jobs for employees.

Then it's time to get down to the details:

What are the crop's cultural requirements (temperature, grow time, fertilizer, watering, PGRs, etc)? What do you need to do in the greenhouse to meet those specifications? Look at both the materials needed (sleeves, liners, media) and the activities (fungicide drench, trim, PGRs).

Give your employees good signals for what the job is and what the expectations are. Set up a system such as color coding flags in the crops to specify jobs (for instance, blue for trim/cut, yellow

for space, green for move outside, etc.).

Before you roll out the crop plan, get buy-in from your team. Discuss growing environments – light levels, temperatures, irrigation, etc. Choose the right growing environment for each crop. Make any tweaks needed based on feedback from your team.

Then set expectations and empower them for success. Who is responsible for what? Make sure the team members know their roles in the process and what the expected outcomes are. Grow the people to grow the plants!

Manage the plan throughout the year. Review the actions for the week at the start of each week. Are the actions appropriate for the plants' stage of growth? Do any activities need to be delayed or skipped? Encourage weekly note-taking for end of season review. Smartphone apps or a pad of paper work equally well. Follow up weekly to check progress.

Two Tips for Turns & Margins

Maximizing spring production space starts with savvy space usage. Here are two quick tips.

Tip One: Using bulked liners for small pot production will increase revenue and turns.

Quite simply, you'll fit more in the same space and with less work. Products such as Enhanced 72 Liners are 72 cell liners grown in 12 count (X6) strip trays that have undergone treatments to deliver a bulked chassis and early, uniform flowering for spring production. Treatments include: supplemental and long day artificial lighting to increase photosynthesis and initiate flowering, one or more pinches to increase branching, growth regulators to increase branching or stack branches and spacing of strips to produce a bulked chassis and develop laterals.

Benefits include no touch growing — just transplant and grow on in a normal greenhouse setting. Product is typically ready in three to four weeks so you get more turns and more profits.

For example, using enhanced liners in a 30x150-foot greenhouse allows an additional 1,330 trays and production in only four weeks, translating to an additional $44,000 in margin.

Tip Two: Slide in an extra, late run of hanging baskets using bulked up 32 liners and cold frame space.

Plant baskets with a product like Fast Tracks 32s in cold frames or protected outdoor field space. Feed them heavily. Hang them in a warmer climate once your traditional space has opened up. You'll be able to turn them in 5 to 7 weeks depending on cultivars and weather/temperatures.

These are 4-inch deep, 32 cell liners with one to three cuttings per cell that have undergone treatments to deliver a bulked chassis and early, uniform flowering. Treatments include: supplemental and long-day artificial lighting to increase photosynthesis and initiate flowering, one or more pinches to increase branching and growth regulators to increase branching or stack branches

Benefits include fewer plants per pot needed when compared to standard liners and no trimming. This replaces the "bump up method" of transplanting into large pots from small pots, so you'll see space and labor savings plus more turns and more profits.

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