CFSA 2022 Farmer Roundtable on Production Challenges.
Handout. Pam Dawling.

Production Challenges by Topic:

1. Land and space
2. Weather
3. Capital, Infrastructure and Equipment
4. Time use, Planning,
5. Quantities
6. Prioritizing Air, Water, Harvest and Planting
7. Labor Reliability and Experience
8. Suitable Crops and Varieties
9. Planting Challenges
10. Weeds and Pests
11. Harvest, Wash and Pack issues
12. Contingency Plans
13. Learning (Record-keeping, Classes, Books, Videos)
14. Resources
15. Support: Peers, Mentors, Shoulders to cry on
16. Other Stuff

Resources – General (Aug 2022)

- SARE [www.sare.org](http://www.sare.org/) A searchable database of research findings.
- [eorganic.info](http://eorganic.info) is the organic agriculture community of practice with the Cooperative Extension System. Publications, webinars, videos, trainings and support. Reliable information.
- Growing Small Farms: [growingsmallfarms.ces.ncsu.edu](http://growingsmallfarms.ces.ncsu.edu) Farmer Resources.
- [https://weatherspark.com](http://https://weatherspark.com/) Weather records for your area. Fun!
- Soil temperatures [www.greencastonline.com/tools/soil-temperature](http://www.greencastonline.com/tools/soil-temperature)
- Growing for Market magazine [https://www.growingformarket.com](https://www.growingformarket.com)

Resources – books

- [The Market Gardener](http://www.amazon.com), Jean-Martin Fortier, New Society Publishers
- [The Resilient Gardener](http://www.amazon.com), Food Production and Self-Reliance in Uncertain Times, Carol Deppe, Chelsea Green
- [The Lean Farm](http://www.amazon.com), How to Minimize Waste, Increase Efficiency, and Maximize Value and Profits with Less Work and [The Lean Farm Guide](http://www.amazon.com), Ben Hartman, Chelsea Green
- [The Bio-Integrated Farm](http://www.amazon.com), Shawn Jadrnicek.
- [How to Grow More Vegetables](http://www.amazon.com), John Jeavons. Has charts: Pounds Consumed per Year by the Average Person in the US and Average US Yield in Pounds per 100 Square Feet.
- [The New Organic Grower, the Four Season Harvest](http://www.amazon.com) and [The Winter Harvest Manual](http://www.amazon.com), Eliot Coleman
- [The Organic Farmer's Business Handbook](http://www.amazon.com), Richard Wiswall, Chelsea Green

Sustainable Vegetable Production from Start-up to Market, Vern Grubinger, https://scholarworks.uvm.edu/extfac/17/ NRAES

Grow More Food, Colin McCrate and Brad Halm, Storey. Published earlier as High-Yield Vegetable Gardening,

Farming While Black, Leah Penniman, Chelsea Green

Garden Insects of North America, Whitney Cranshaw

Crop Planning for Organic Vegetable Growers, Daniel Brisebois and Frédéric Thériault (Canadian Organic Growers  
https://www.cog.ca/) 

The New Seed Starter's Handbook, Nancy Bubel, 1988, Rodale Books

Resources – High Tunnels

U of MN High Tunnel Production Manual www.extension.umn.edu/garden/fruit-vegetable/#high-tunnel

HighTunnels.org: hightunnels.org/for-growers/

High Tunnel Production Manual. 2011. Center for Plasticulture, Department of Horticulture, College of Agricultural Sciences, The Pennsylvania State University. Available for $25.00 from Dr. Lamont, 206 Tyson Building, The Pennsylvania State University, University Park, PA 16802 or e-mail: wlamont@psu.edu


Greenhouse and Hoophouse Grower's Handbook: Organic Vegetable Production Using Protected Culture, Andrew Mefferd,

Resources – My Slideshows on www.slideshare.net/ Search for Pam Dawling.

The Garden Shift Honchos Guide

The Goal is to gainfully employ the crew in garden tasks that are high priority, while having a good time and no injuries. The main challenges are deciding what to do, explaining the jobs, making sure people do the job well, choreographing the crew to finish on time, and dealing with the unexpected. Here are some suggestions:

Planning and Preparation: You can plan the day before which tasks you want to do, read the garden shift log book, and/or walk round the garden. Or at least decide what to harvest.

Start Up: It helps to have a way to check the time. Get carts, buckets, knives together. Shift workers can join in! Make a list of what to harvest - look at the Task List notebook, some things are harvested on specific days, for efficiency. Ask who wants to pick what. Make sure everyone knows what they need to know to get started. For afternoon shifts, we usually harvest first, and try to get the harvesting finished by 3pm. For morning shifts, dew is an issue, (see next section), and it might be better to start with hoeing, raking or shoveling. Once people are settled into the first task, you can plan the next thing. Sometimes gathering the tools for the next job helps think through how to do it.

Harvesting: Try to at least get the harvesting done, whatever the weather, (unless torrential rain, tornado, ice storm, thunder and lightning). Pick newer squash, cuke and bean rows before older ones, to minimize disease spread. Some crops are best not picked while the leaves are wet: beans, nightshades, cucurbits. Some crops are best refrigerated soon after picking, so do them just before a cooler run: corn, lettuce, other floppy leaves. Some do best standing in an inch of water in the bucket: leeks, celery, chard. Make sure everyone knows how to do their job. Pair up visitors with experienced people. Go by to check after 15 minutes, and give feedback. It can be disheartening for someone to pick the same thing for a long time, so be aware and send help along. It's handy if everyone finishes harvesting around the same time, but it can be tricky to organize! Perhaps spread out at first for miscellaneous harvesting, and then end up together on the crop that takes a long time. Also try to work it that an experienced member is among the last done, and can take the produce away.
**Other Tasks:** The ones marked * on the Task List are high priority, so do those if feasible. Keep an eye on new people. Show them what to do, and watch to see if you explained it clearly enough. If they don’t get it, you didn’t explain clearly enough. Tell them if they aren’t doing it right. Tell them if they are! It’s very important to go back to check on people to make sure they’re doing things right. You won’t be able to do the harvesting, hoeing, weeding at your usual fast pace while your main job is to see that everyone else is doing appropriate work! (As a guide, if you have 8 workers, then organizing them is your full-time job.) Our sequence of priority is generally Harvest, Plant, Mulch, Prepare Beds for Planting, Hoe, Hand Weed. Also try to do a little hoeing or weeding every day, to stay on top of things. See below for other factors. Hoeing is best done in dry weather, and in an area that won’t get irrigated that night. Nasty weeds such as wiregrass go to a special place we call The End of the World. Seeding weeds are taken to the compost, but if you only have a few they can go to the end of the world. Nice, non-seeding weeds can be left on the beds in dry weather.

**Offering options:** It’s nice to give folks more than one choice, but many people (especially new people) don’t have the background to choose between them, or don’t care. While they’re waffling, others are often standing around waiting. It can be good in those cases to have a clear idea of how many people you want on each job, and then have a default job for everyone who doesn’t care or can’t choose. Sometimes you might need to say “Well, this is the job we really need to do today. The sooner we start, and the more people we have, the sooner it’s done.” Some people have allergies or physical limitations, and you’ll need to give them a different job, or a specific part of the task, such as watering. Try to arrange for varied tasks for the shift, some aerobic, some not.

**The Break:** We generally have 10-15 minutes for a break in every 4-hour shift. The honcho decides when the break will be, depending on the flow of the work. A little beyond half time is what most people prefer, as it leaves a shorter second “half.”

**Finishing on time:** Figure ahead of time (or ask another Full Crew) how long the corn planting is likely to take, for example. Try to finish the main task with time to spare and finish up on some weeding. If you see you’re running out of time before the main task is over, plan a phased withdrawal. Stop people planting when there’s 20 minutes left, get the seeds or transplants put away, and then focus on watering, covering and packing up. It helps if you keep up with these ancillary tasks as you’re working. Get people to bring rowcover and sticks in good time. Planting is wasted if the other things don’t happen. If you realize you’ve seriously misjudged, start asking who could stay later to finish up. It helps to know if you’ll have 6 folks or be on your own!

**New Workers:** Make sure they don’t get frostbite or heat stroke. Offer hats, sunblock, plastic water bottles, gloves, kneelers. Be sure to check on how they’re doing if they’re not used to hours of outdoor physical work – they might be really suffering even if you’re not! Tell them it’s OK to switch jobs. Remember that new people often want to meet other people, so try to spread them around and not have them all together doing something tedious with only each other for company. It’s especially important to check back soon after explaining a job – you don’t want them pulling up the wrong plants, or planting too deep. It can be hard for new people to distinguish between seedlings and weeds. Putting experienced crew with newbies is a good way to set examples on technique and efficiency.

**Slackers, Flakes, Goofballs, Airspace Hogs:** Such people rarely choose to work in the garden, but should you find one, don’t be afraid to tell them to work while they talk, and that the social atmosphere needs to be something everyone can enjoy. Managers might need to have a talk with the person in question, or in severe cases fire them from the crew.

If you feel frazzled, choose a big simple task lots of people can do, like weeding strawberries, or hoeing corn. Or choose two tasks geographically close, so it’s easy to keep an eye on everything happening.

If the day is likely to be very hot, have an “aerobic segment” at the beginning and get the physically taxing tasks done first (especially anything involving shovels).

If the morning starts out with a heavy dew, postpone harvesting cucurbits, nightshades, strawberries and legumes until the leaves dry, to reduce the spread of fungal diseases.

After heavy rain: Mulched perennials (fruit and asparagus) are the easiest places to work without getting bogged down. Don’t work in sinking mud, it compacts the soil, which means the plants go short on air, and the soil will be slower to drain after future rains. Standing on long boards is an option for harvesting or planting.

If heavy rain is expected and you might have to stop in a hurry, do weeding, not planting. Don’t hoe if it’s about to rain, it’s a waste of time. Hoeing is best done in an area that won’t get overhead irrigation that night. Likewise, don’t leave pulled weeds on the beds before rain. They’ll re-root.
**Complex tasks:** Don’t hesitate to lean on other experienced crew to help organize complex tasks or sub-honcho a portion of the crew. We’re here to support each other! Sometimes it’s easier to start everyone on a big hoeing or weeding project, then leave an experienced person in charge of the straightforward task with most of the crew, while you pull out a couple of people to get the complicated task started, then add more people once it’s up and running. Or send one or two experienced people over to set up, and then send more crew over as the set up work is done It’s awful having 9 people stand there while you try to figure out how to do a planting!

**Other Situations:** If your experience leads to a tip about dealing with a strange situation, tell the managers, so we can all improve.

**Rainy Day Jobs:** Work on perennial areas which are mulched. Look for greenhouse or hoop house work. Infrastructure repairs. Tool and equipment repairs. Wash and sort gloves. Sharpen hoes, knives using file/stone. Unstick stuck buckets.

**After rain:** Disease-susceptible crops should be avoided after a rain, whether harvesting or weeding. Potatoes should not be weeded or touched when the leaves are wet.

**Frost is more likely if:** The date is before 4/30 or after 10/14. The Wunderground forecast low for Louisa Northside is 38F (3.5C) or less. The daytime high temperature is less than 70F (21C). The sky is clear. The soil is dry and cool. The moon is full or new. The temperature at sunset is less than 50F (10C). The dewpoint forecast is low, close to freezing. Frost is unlikely if the dewpoint is 43F or more. There is little or no breeze, although if temperatures are falling fast, the wind is from NW, the sky is clear, then polar air may be moving in, and we’ll get a hard freeze. We subtract 5F from Louisa forecast to give what we expect here on the farm.

**My Growing for Market articles and slideshows**

*Building resilience into farm systems* (September 2012); *Understanding and predicting conditions* (October 2012); *More strategies for dealing with a changing climate* (January 2013); *Making good decisions under pressure* (February 2013). The second is available free at the link. To subscribe and read the others, go to [https://growingformarket.com/](https://growingformarket.com/)

Content similar to my February 2017 GfM article *How to decide which crops to grow* is in my slideshow *Deciding Which Vegetable Crops to Grow*, on SlideShare.net.

In order to adjust to changing conditions, bounce back from challenges and get the best possible outcome, we need to be alert, adaptable and quick on our feet. Being ready includes making good assessments of conditions and building in many options, keeping all options open until the future is clearer, and knowing when and which way to jump. It involves being prepared with needed equipment (or at least phone numbers and email addresses), and having our filing systems be accessible all year!

It involves keeping records of when certain wild and cultivated flowers bloom (phenology) and soil temperatures and knowing how to use Growing Degree Days. This helps us figure out when to plant according to actual conditions, rather than simply by the calendar, a method which is not holding up as climate change takes hold.

The second necessary skill-set in cultivating adaptability is knowing how to make a swift and effective decision and locate the resources to put that decision into practice. This includes information about soil temperatures and how long various crops take to emerge. Also, knowing how summer crops will respond to extra high temperatures. And how winter crops will respond to horrifying low temperatures. When is it time to cut your losses on a struggling crop and till it in? Growing food is an organic process, non-linear!

These two sets of skills are followed by some kind of review process, so we can learn from what went wrong, and how to repeat what went right! You can also list other possible responses, increasing your range of options. Remember that “record” doesn’t have to mean lengthy writing. It can include photos, audio recording, video clips. Whatever works. You may only need to tweak your response in future, or you may want a completely different approach. One of our garden mantras is “Never repeat the same mistake two years running.”