# Fall Gardening in Focus: A Straightforward Primer

by Quin Shakra / The Plant Good Seed Company, LLC



Fall can be a rewarding time to grow your own food. Cooler temperatures make it easier to work outdoors and leafy green crops get sweeter in cold spells. Grocery store produce typically becomes more expensive during the off seasons of vegetable production, so a well-timed vegetable garden is a cost saving measure. In warmer fall and winter climates it's even possible to squeeze in a few typical summer crops (e.g. basil, summer squashes, beans, sunflowers) and get some modest production from them. This primer is aimed at helping you grow your own food as quickly as possible in the fall. It includes a planting guide, some useful tool selections, equipment recommendations for extending your growing season, and addresses a few common garden pests and solutions for managing them. Lastly it includes some notes on the harvest.

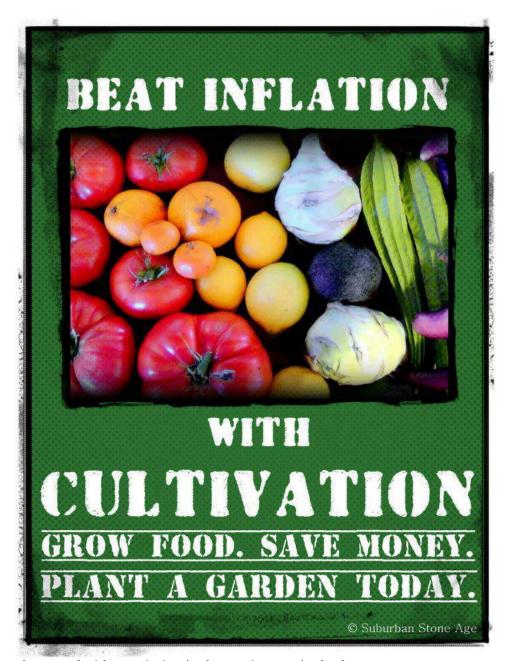


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## **Growing Methods**

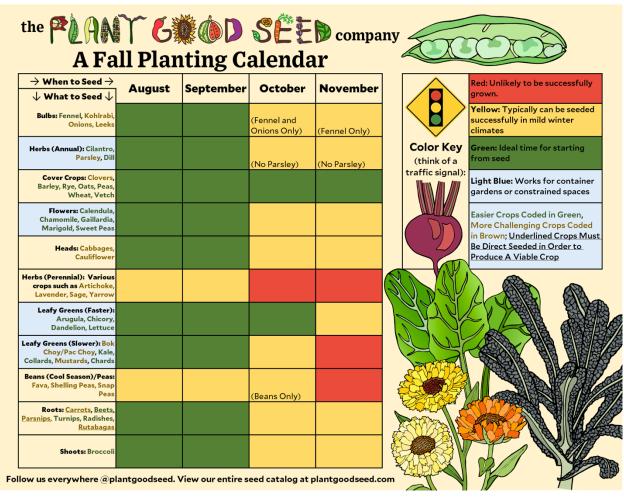
## Containers? Raised beds? Rooftops? Or just plain 'ol in the ground...

A lot of plant cultivation techniques are the same regardless of where you grow and what you grow in. The biggest difference between outdoor growing in raised beds versus directly in the soil is mostly weed pressure and plant spacing. Containers also have some special considerations because some plants produce substantial root systems that fill up their available soil area fast. Long season crops such as cabbage, Brussels sprouts, and cauliflower and deep-rooted crops like chards and beets are not

ideal for these planting mediums. However, if you have and maintain adequate soil fertility, root area, and a consistent watering regime for your plants, you can be successful no matter what your growing medium.

### When to Plant

The following chart (<u>also available to download in PDF format</u>) is intended to provide planting information for the most common fall crops and uses the metaphor of a traffic light. I've also included crops that could be planted in warmer winter climates where there is little or no sustained frost.



If you are new to gardening, I'd recommend focusing on anything that's color coded in green. Green is good to go. The yellow coded crops are probably the most dynamic and great for intermediate gardeners to consider attempting; success is very possible but requires just a little more attention. Proceed with caution. Avoid growing any crops color coded red, unless you're in for an adventure and have tolerance for a lot of failure.

Generally speaking, mid to late August is an ideal time for planting all the crops listed on the calendar. In almost all temperate Western Hemisphere climates you can expect some degree of fall production. Even Early September is ideal as well. Crops seeded in October will definitely experience challenges. The days are starting to shorten, nights get colder, and plants that start off well will have trouble maturing in this type of weather. If you are in a warmer winter climate AND have a cold season extension (see below) plan in place, October can be considered an ideal time for seeding.

#### How to Plant

Unless you have a relatively weed free soil, starting your seeds in seedling trays in a protected area such as a green/shade house can be a great way to get plants going ahead of time, and protected from cold or heat during their early, more precarious life stage. For those unfamiliar with what certain seedlings look like, this can also be a great learning experience as you can observe your seeds emerge in isolation from potential weeds.

Take note, however: root crops are ideally direct seeded. Carrots and Parsnips are a must, as root forking is inevitable no matter how careful you are with transplanting. (My attempts at transplanting some of the most productive carrot varieties on the market resulted in roots that were universally twisted and stunted.)

Use specific planting instructions such as planting depth and days to germination to guide your seed starting. Always keep seeds evenly moist throughout their germination period and during the earliest stages of their life. That's when they need the most attention.

If you are late starting plants from seed, consider heading to your local nursery to pick up some seedlings to make up for lost time. Seedlings at a nursery already have about two or three weeks of growth.

### Some Useful Tools



Gardens can be created and maintained in a number of ways, so the tools you use are largely a matter of personal preference. Most of my day-to-day field work relies on the following:

• A digging fork: one of the most useful garden tools. I use this tool more than a shovel. A properly irrigated soil and digging fork can turn bare ground to

garden beds in no time. This tool is also as effective as a shovel for harvesting root and tuber crops such as potatoes and sweet potatoes. The Radius Garden Stainless Steel Digging Fork is a solid choice for its durability and ergonomics. If you are looking for a more classical design, I've also used a Spear & Jackson R410 English Style Heritage Forged Digging Fork, but be careful to not push this one too far: wooden handles can and will break during heavier rock excavation that can occur when using a digging fork. However, I've also bent tines on the Radius digging fork, so just be aware that every tool has its physical limits.

- <u>CobraHead Weeder</u>: an extremely versatile tool used for removing both surface and deeply rooted weeds and scratching in fertilizer. Having a few of these around in choice garden locations is ideal, so there's always a way to quickly and efficiently remove weeds.
- Shovels, much like the digging fork, tend to the do the heaviest duty work, so I've found the all metal shovels to be the most reliable. I use two from Fiskars: the <a href="Fiskars Long Handle Digging Shovel">Fiskars Long Handle Digging Shovel</a> and the <a href="Ergo D-handle Steel Transfer Shovel">Ergo D-handle Steel Transfer Shovel</a>. The latter is flat and great for constructing raised beds with garden soil or scooping the bottom of a compost pile.
- Bow rake: great for removing small debris and final garden bed shaping especially critical if you are direct seeding small seeded crops such as carrots and lettuce. I'm currently using this Seymour 17" Bow Rake. Can't really say anything passionate about it, so any equivalent would be just fine.
- Grub hoe/eye hoe: great for removing large debris and weeds prior to preparing
  your soil for digging; can also help break up large clods of dirt. I've been using
  this <a href="SHW 5.5" Grub Hoe from The Tool Merchants">SHW 5.5" Grub Hoe from The Tool Merchants</a>. This is one of the oldest
  garden tools in existence, so I prefer the classic styling versus a more modern
  take on it.

## Other useful tools

Don't let this list intimidate you as the following are optional in most smaller growing circumstances. These are simply items I've found useful for my own slightly larger than small scale seed production for the company.

- A pair of micro-pruners such as the <u>Fiskars Comfort Grip Floral Snips</u> are nice for early season plant thinning/microgreen harvesting. For later season harvesting a pair of full-sized pruners such as the <u>Felco F2</u> or <u>F11</u> are eminently practical. I keep two pair around because one is usually always in need of maintenance. A pair of garden shears such as the <u>Fiskars 7 inch Take-Apart Shears</u> are a cheaper (although still quality) alternative that can serve the function of both tools. I have six pairs of these around the house at any given time.
- If your growing area frequently requires moving crop remnants and weeds to a compost pile, a sturdy wheelbarrow is definitely helpful. I recently picked up a Bon 28 907 Premium Contractor Grade Poly-Tray Double Wheel Wheelbarrow

- (5-3/4 Cubic Feet, with Steel Handles and Knobby Tire) and am looking forward to trying it out.
- A water meter is useful for understanding crop needs and making judicious use of your water supply. I have two <a href="Neptune T-103/4" Potable Water Meters">Neptune T-103/4" Potable Water Meters</a> (measured in Gallons). They hook directly to a garden hose and I've had no problems with them in over two years of use.
- Lastly, a water timer can help save time and water use; I have a number of <u>Claber 8423 Aquauno Select 2-Dial Water Timers</u>. This Italian made model <u>can most commonly be found on eBay</u>. It has few granular settings but is simple and reliable. Programming is so straightforward that a small child could operate it and it runs off one 9V battery that will last for over a year.

## **Fertility**

Most soils require some form of nutrient amendment for proper vegetable growth. Once it gets colder, plants take up soil nutrients less efficiently, which means that proper soil fertility is especially important in the fall season. Inadequate soil fertility will lead to stressed plants, opening them up to greater predation, stunted growth, and in many cases, total crop failure.

The macro-nutrients required by every major vegetable are Nitrogen (N), Potassium (P), and Phosphorous(K). Any fertilizer purchased or sourced at a garden store will have NPK values listed on the package. These reflect the percentage by weight of each nutrient included in the fertilizer. To determine the nutrients available in a given fertilizer, multiply one value of the fertilizer by its weight. For example, a 50-pound bag of fertilizer with a 10-10-10 NPK listing has 10% of each of these nutrients by weight.

Fertilizer application is an imprecise art. If you know your soil, you probably know just what to add. If you're unsure what you're dealing with, amend plants modestly, and observe how the plants respond. If they are stunted, add more fertilizer. Soil tests are also possible and are great especially if you have long term plans for your garden, but they're only really necessary if you're concerned about toxicity in your garden soil. In most cases, an easy to use store-bought fertilizer is <a href="Down to Earth's All Purpose 4-6-2">Down to Earth's All Purpose 4-6-2</a>. It will take care of gaps in nutrients you have in your soil just fine.

Keep in mind that organic fertilizers tend to break down slowly and provide a sustained amount of fertility throughout the season. If your soil fertility is initially very poor, consider a faster releasing fertilizer, such as a liquid kelp (typically a water spray applied directly on the plants in cooler, overcast weather or toward dusk) or a blood meal.

Also consider side-dressing. Essentially, this means giving plants an additional dose of fertilizer halfway through their growing cycle. If you are applying fertilizer midseason, take note of a few things: organic fertilizers must make contact underneath the soil surface as they are not directly available to the plants: they must first go through the soil cycle whereby they are consumed by microorganisms that in turn

make the nutrients available to plants. Apply fertilizer around the base of the plant and gently scratch it in using a tool such as the CobraHead weeder (discussed above). Do not scratch deeply as you may end up disturbing or uprooting plants.

For those interested in the topic of soil and fertility, I'd recommend the book <u>Teeming</u> <u>With Microbes: A Gardener's Guide to the Soil Food Web</u> as a great entry into the topic.

#### **Season Extension**



From June until through the winter solstice (typically around December 20th or 21st), most areas in the Northern Hemisphere lose about two minutes of daylength per day (for more precise information, consult a daylength calendar). This means fall gardening is not only a colder but also a darker endeavor.

A great way to give your vegetables a little more time to grow in the autumn is to protect them from the cold months of October and November. Even modest cold protection goes a long way and also provides your plants refuge from some (but not all) common garden pests and even larger animals such as deer. Cold frames made of glass or heavy duty plastic are easy to find, and if you have a greenhouse you can also grow inside of it for the cold months, but for many these options are too expensive and laborious to set up – especially if you are getting a late start.

One inexpensive method is <u>QuickHoops Low Tunnel Benders</u>, a tool set that allows you to bend inexpensive electrical conduit available at any hardware store into the basis of a cold frame. You can place these frames about four feet apart along your garden bed and then cover them with a light frost cloth, such as <u>agribon</u> which is also inexpensive. Definitely invest in some method to anchor down the frost cloth to the ground once you are set up. Sand bags and sand work are an inexpensive option. Your bill of materials will run approximately \$100-\$150, but consider this: the hoops can be retrofitted with shade cloth in the summer to make it easier to grow cooler season crops such as lettuce.

If you live in a warmer winter climate, this will help take your fall crops all the way through winter. If you live in a colder winter climate, this hoop house will not protect your crops from extreme cold, frost, and snow, but it may give you a few additional weeks of leafy greens.

# Fall Garden Pests and Some Helpful Organic Solutions

Anyone who gardens organically or with low soil fertility has experienced plants becoming infested with aphids, eaten up by flea beetles, decimated by cabbage moths, and taken down by slugs and snails overnight. If you are regularly experiencing these issues, you are likely dealing with soil issues. Growing crops without the proper nutrients, placing them in too tight spacings, or growing the same crops consecutively in the same soil are common problems that precipitate some, but not all forms of predation. The best way to avoid pests is preventively: ensure adequate soil fertility, use adequate plant spacing, and anticipate problems before they happen. When pests do show up, respond proactively and early: these are the best means of managing the problems they create.

What follows are some recommended treatment methods for common pests. Note, all these forms of pest management are allowed under certified organic crop production. Generic solutions are cheaper and just as effective, but if you want to be absolutely certain you are following National Organic Program guidelines, use Organic Materials Research Institute (OMRI) to ensure you are using approved versions of the following:

- Aphids: Neem oil in a water solution sprayed directly on the plants can deter modest aphid populations but is not very effective against outright infestations. A more aggressive organic solution is pyrethrin spray a contact insecticide derived from chrysanthemum flowers such as Safer Pyrethrin & Insecticidal Soap Concentrate. It is the most useful way to deal with early season populations that have yet to get out of hand. For fully fledged infestations across large swaths of plants, it's usually best to simply remove the affected plants.
- Flea Beetle/pill bugs: lightly dust <u>diatomaceous earth</u> (DE) directly on plant leaves. A small inexpensive <u>duster/hand bellows</u> makes this task super simple and makes efficient use of the DE.

- Cabbage Moth: Dissolve <u>BT (bacillus thuringiensis)</u> in a water solution and spray directly on plants.
- Slugs and Snails: For small populations, snail hunting at night is a gardener's favorite pastime. For broader scale infestations, applying granulated <a href="sluggo/iron phosphate">sluggo/iron phosphate</a> on the ground near plants. People also use copper lining (snails are averse to it) or beer cans as other control mechanisms.
- Gophers: physical barriers tend to be the most time efficient way to deal with gopher problems. Raised beds lined with a material like chicken wire gopher cages are both effective in dealing with below ground issues. Trapping is another effective option if you can tolerate it but tends to take more time (learning the behavioral patterns of gophers and ending up with backfilled traps can be kind of deflating) and of course, managing cleanup of dead carcasses. Black Box traps are relatively easy to use and safer to set than other spring traps. A good gopher shovel will also benefit your trapping operation.

#### The Harvest



Crops such as beets, cabbage, cauliflower are "one hitters" in the sense that they are harvested once and finished. These harvests are relatively straightforward. However, crops such as collards, kales, some types of broccoli, and even lettuces can be

progressively harvested. Consider harvesting these crops at a more modest rate than you would during summer or spring months. Plant leaves don't regenerate as quickly in the fall and winter, and if over-harvested they will have a much harder time regenerating. Be gentle to your plants in the autumn.

In terms of harvest itself, plants can hold really well in the field, so only harvest enough for what you'd eat over a couple of days. Crops such as cabbages, carrots and beets tend to store better, so if you're worried about outdoor losses, definitely bring these in for refrigeration. Due to their thin leaves, lettuces are probably the crops most susceptible to inclement weather. Lettuce stores really well if processed correctly, so you could consider harvesting and processing larger amounts of this. If lettuce is a main food for you, consider picking up a larger salad spinner to make quick work of your harvests. I have a <a href="Dynamic E001 Manual Salad Spinner">Dynamic E001 Manual Salad Spinner</a>, which is 2.5 gallons and sits in between cumbersome commercial salad spinners (which are overkill for small growing contexts) and a home spinner (which typically doesn't hold very much volume). The E001 is a commercial grade tool that's sealed on the bottom so it can be used indoors. I harvest a number of lettuce heads, chop them into smaller leaves, then wash and store in plastic bags or a larger food grade container. It's pretty rewarding to have a deep cache of lettuce on hand.

## Conclusion

This primer has briefly covered growing and planting methods, planting dates, tools, soil fertility, garden pests, seasonal extension, and harvest. You now have a good set of information to get started. If you need seeds, do consider picking them up from our seed catalog!

One last word of advice: don't be intimidated by starting or failing. Failure is a great training tool to prevent future problems. Don't get caught in the mindset that you don't have the right products to garden. In the end, your greatest assets are your observation, attention, and patience. Money can't buy those things.

Suggestions for future improvements to this primer are welcomed. Feel free to email me at <a href="mailto:quin@plantgoodseed.com">quin@plantgoodseed.com</a>.

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