

HOW WE GROW GREENS AT STAR LIGHT GARDENS FOR WINTER PRODUCTION

Ty and David Zemelsky
Star Light Gardens
54 Fowler Ave, Durham, CT 06422
860.463.0166
e-mail: starlightgardens@comcast.net
website: starlightgardensct.com

Having fresh greens to sell during the winter months has been a cornerstone for Star Light Gardens since we started 12 years ago. Not only does it help with our cash flow during the slower times of winter, but it also forges new customer relationships with both restaurants and market goers for the rest of the growing season. We would like to discuss with you our choices of crops, growing methods, soil amendment issue, planting schedules, high and low tunnel considerations, harvest methods and other crops to consider for production.

Why Some Plants Don't Freeze

Frost resistant plants prevent water from freezing inside plant cells. Basically plants do this either by desiccation, so the water solution in the cell is so concentrated with other molecules that it does not freeze, or by synthesizing the equivalent of antifreeze, either high concentrations of sugars or betaines. Thanks to Dr. Martin Gent

Choice of Crops

For the first 7-8 years of growing greens for winter harvest, we choose a wide range of crops in our high tunnels. Some crops fared better than others. Mizuna, arugula, tatsoi and lettuce mix are fine for late summer, early fall. When the temperature drops seriously below freezing, none of these crops had much staying power for us. They would either turn to mush (lettuce) or get yellow (tatsoi) or fail to thrive (mizuna and lettuce). Having said all this, it should be pointed out that there are ways around these pitfalls, which we'll cover in more detail when we talk about planting schedule. The greens that worked the best all winter without any hesitation for us are red russian kale, claytonia and spinach. Let's talk briefly about each one of these choices. We call them our Winter Warriors (for obvious reasons)

Red Russian Kale, while slower by at least a week from mizuna, just keeps on thriving regardless of the temperature. Viable kale plants that are not even protected by row cover out in the field are common in the Spring. We are very happy with Johnny's kale, High Mowing's kale and Wild Garden Seed's.

Claytonia, sometimes is known as Minor's Lettuce by some. It grows wild in the Pacific Northwest. It received its common name by miners back in the day who would eat the plants to prevent scurvy while panning for gold in areas where they couldn't get fresh vegetables. Being cold hearty by nature, claytonia won't even think of germinating until it is cooler. With a little bit of planning, one could let last seasons crops go to seed and then have it start all over again the following late summer/early fall. It is not only gorgeous, but incredibly satisfying to eat. Its texture is profoundly crunchy and has a wonderful mild taste. Just before going to seed, it puts

out a small, delicate white flower that is also edible. Claytonia takes a while to get established in the fall, but once it has done so, is happy to be cut several times.

Spinach is the glue (not literally) that holds everything else together. The demand for fresh winter spinach is inspiring. We are circling around several great varieties. Each of them has their own special appearance, taste and strengths. A whole workshop could easily be devoted to exploring all the varieties. We like Samish, Tyee, Regiment and Corvair. We're also trialing a few unknowns with interesting names like Raccoon and Crocodile.

Methods of Growing

Greens are grown in High and Low Tunnels. Spinach and claytonia are planted with an earthway seeder in rows that are 8" apart, so that we can easily cultivate with a dual wheeled, dual saddle-hoe. Kale is planted with the Johnny's 8 point seeder, using their second largest hole choice, and going over each area twice. Row cover is placed over everything, using hoops that we construct ourselves. Row cover is .9 oz per square yard. Heavier or multiple layers would be even better, so if you have them around, doubling up can really help. Row cover is removed during the day in order to maximize air circulation and light.

Soil Amendments

We have been incorporating alfalfa meal and fertrell feed-n-gro (3-2-1) into the bed after power harrowing. An inch of leaf compost is put on over that. Besides the usual benefits of compost, this particular method makes the compost into a mulch, and helps with the emergence of weeds, particularly chickweed. The best scenario is to get the soil prepared, wet it for ten days and then torch all the emerging weeds and quickly plant winter crops. Its really a race. So if you give the new seeds a head start, they can keep ahead of chick weed.

Planting Schedule

For late fall harvest, you should have everything planted by October 10-14 (depending on your location) Late lettuce and most other brassicas are fine if planted by early September, just don't count on them for the long haul. Spinach planted by October 15 will be ready by the end of the year. Now, in looking ahead to early spring there are a ton of varieties that need to be planted late in order to be a success later on. Carrots, chard, beets and lettuce are the most important. Pak choi comes in next. If one plants carrots too early, they will just go to seed and produce a big fibrous root that is inedible. The best time for planting carrots would be in early to mid November. In that way, they get established in the late fall and really begin in earnest the following March. Same for beets and chard. Lettuce if established in mid fall is very happy to winter over as small plants and do fine with cold weather if given protections from wind and snow. Johnny's 5 Star Greenhouse Variety works great, as does Morton's Mystery Mix from Frank Morton of Wild Garden Seed.

High Tunnels and/or Low Tunnels

One really important thing that you can say about low tunnels is that they are inexpensive and effective given certain parameters. Lately, I've come to the decision that a low tunnel is probably not as good a choice for someone over 60. It's not just the bending over to uncover them, but also the possibility of having to recover them if the plastic blows off in mid Winter. Not a pretty sight! With sandbags plentifully placed on each hoop, the possibility of them

coming loose is minimized. Still, harvesting in a high tunnel feels like a luxury compared to the possibility of having to harvest in the rain, snow and wind. For late carrot plantings, as well as chard and beets, the low tunnel cannot be beat. Proper venting in early spring should be remembered, though. We've never had good luck with spinach in a low tunnel. Not sure why. So, rather than fight this one, we keep our spinach in the high tunnels only. Two layers of plastic are better than one. We've always saved old skins from our high tunnels and sliced them up in 10' x 45' foot sections. Make your tunnels 40'. Any longer and they are a big target for strong gust of wind. Use the extra 5' to wrap the ends. We use hoops from rainflo, prebent in a circle, every four feet.

High Tunnels: one layer of plastic works for us, with row cover on hoops to keep the air circulating. Gothic style makes for a self shoveling roof. Just make sure that you place your houses in such a way that they are at least 15' apart to allow for snow piles. Plugging air drafts is important, obviously. There's been a lot written about insulating around the parameter of each house. This is a great idea, which we've never tried, largely for economic considerations. Uninsulated houses work just fine.

Harvesting

At Star Light Gardens, we harvest in nets inside of laundry baskets either using a high quality knife or in some instances the Johnny's Harvester. For the past 4 years, we've delivered our greens to restaurants and farm markets unwashed. This is a wonderful thing for everyone. Firstly, the minute you wash greens is the moments that they start to deteriorate. Secondly, washing at any time of year is tedious and difficult to do correctly. In the winter, it is doubly difficult because running water can be an issue. It is for us. It is also great for the consumer, because their product stays fresher longer.

OTHER CROPS TO CONSIDER FOR HOOP HOUSES

Potatoes: planted in early April and protected from cold by row cover. Get a real jump on this popular crop. Raspberries, strawberries, black berries: there are a lot of people out there doing this. We're considering a fall planting of strawberries. (see latest issue of Growing for Market August 2011)

Flowers: haven't done this, but so many advantages from pest and frost protection.

Philosophically, we are very much in tune with season extension farming. Being able to provide real food that is locally grown 12 months of the year is a privilege for us. We are producing highest quality food with a zero carbon footprint (in the growing process) and using a minimal of energy to deliver this food to grateful customers.

RESOURCES

SEEDS

Fedco

Box 520/ Waterville, Maine 04903

Johnny's Selected Seeds

955 Benton Avenue/Winslow, Maine 04901 / www.johnnyseeds.com 1 800 854 2580

They are always friendly, great service and warranty policy.

Seed Savers Exchange
3094 North Winn Road,/ Decorah, Iowa 52101 Phone: (563) 382-5990

High Mowing /Wolcott, VT 05680
1 802 888 1800 / www.highmowingseeds.com

Wild Garden Seed
PO Box 1509 / Philomath. OR 97370 interesting brassicas-worth checking out

BOOKS AND OTHER READING MATTER

The Winter Harvest Manual by Eliot Coleman. A great resource book. Order from Fedco or directly from Eliot at Four Seasons Farm RR Box 14 Harborside, Me 04642

Caterpillar Tunnels
Lynn Byczynski
Growing for Market June/July 2010

Hoop house update: most profitable uses
Lynn Byczynski
Growing for Market January 2010

High Tunnels Manual
Tracey Frisch and Ted Bloomgren
a SARE grant with video. Manual is available free on line at
uvm.edu/vtvegandberry/videos/hightunnels.html

USEFUL WEB SITES

WWW.uvm.edu/vtvegandberry
WWW.longislandhort.cornell.edu/vegpath
www.uvm.edu/~susagctr/
[/www.cefs.ncsu.edu/](http://www.cefs.ncsu.edu/)

IRRIGATION

Dripworks 1 800 522 3747 user friendly place, helps you figure out what you need to do
Rain-flo Irrigation/ East Earl, PA/ 1 717 445 6976
Best prices on irrigation equipment and row cover. Fast delivery

GREENHOUSE SUPPLIES

Growell Greenhouses Cheshire, CT 1 203 272 8147 Mike Tripedino. Mike has walked me thru putting up my own house. He is friendly, very interested in helping people solve greenhouse problems. He will also send crews to erect houses and re-cover them

PUBLICATIONS

Growing for Market/ PO Box 3747 / Lawrence, KS 66046
An informative-thoughtful magazine. Often has useful articles about growing winter greens. Supportive of organic, sustainable agriculture. Also, many timely articles about market growers' issues and national issues. Editor Lynn Byczynski, is extremely ready to help you find useful books on their online store