

Texas AgriLife Extension service – El Paso County 9521 Socorro Rd., Ste A2-Box2, El Paso, TX 79927 915-860-2515 http://elp.tamu.edu

Community Garden Workbook A Guide to Starting Your Own Community Garden

Experience has shown that successful community gardens have certain characteristics in common:

- Strong and consistent leadership
- A master plan which resulted from careful consideration of the purpose of the garden
- Solid horticultural knowledge by one or more participants.
- Strong support from the sponsoring agency if associated with an institution of some kind
- A consistent, reliable source of funding
- Location in a site that provides 8+ hours of sun per day
- Location that is easily reached by the workers.
- Adequate and available water supply
- Five to 10 workers who are dedicated to the purpose of the garden.
- A set of basic rules that have been worked out and agreed to by the participants.

The Idea

One person or a group of people can get the idea to start a community garden. They can be members of a local community, parents at a school, members of a church or community organization such as a business, club, shelter, etc. The first step in the process is to gather 5 to 10 people who have a strong desire to build a successful garden and determine the purpose the garden is to serve. The garden can feed the families of the volunteers, supply fresh produce to a food bank or soup kitchen, teach horticulture and nutrition to children, provide therapy for the handicapped or simply beautify a portion of land and provide a place for community involvement.

Once the people sign on and the purpose has been determined a site will need to be found. The possible site will need to be evaluated with respect to its suitability for a garden.

- Does the area receive at least 8 hours of direct sun per day? Most vegetables produce poorly with less than 8 hours of sun. Eight hours is optimum.
- Does the site have access to water?
- What is the lay of the land? Is it flat? Sloping? Does it flood?
- What is the location relative to the people who will be doing the work? Will it require them to travel a distance to participate?
- What was on the property previously?
- What is the condition of the soil? Do you suspect the soil may be contaminated?

(Adapted from Workbook by Jean Fefer, Ph.D., Harris County Master Gardener and Carol Brouwer, Ph.D., Harris County Extension Agent—Horticulture)

- Is ownership of the property known?
- Are there future plans for the property?
- Will it be necessary to get permission or sign a lease?
- Is the site visible and what is its location relative to private property and businesses?
- Is the site accessible to a truck delivering soil or compost?
- Is it fenced or can it be fenced?
- Who would be liable should someone get hurt?

The Plan

You first need to determine what you want to grow and how much. If this is an allotment garden each family or individual will make their own decision about this. In this case you will need to determine how many families or individuals you will be able to accommodate. If this is to be a donation garden you will need to communicate with the group that will be the recipients of the produce to determine what they want or can handle.

With this information you can determine how big a space is needed and how many gardens need to be built. Pick the sunniest part of the property and mark out your gardens. A width of 4 feet is best. This allows maintenance of the garden without having to walk on the soil thus compacting it. The length of the garden can be anything, but most are 25-40'. The gardens need not be rectangular. They can be circular radiating from a central common area or even free form as long as they are built in such a way to reduce walking on the soil of the beds. Be conservative. It is best to start small and plan so the garden area can be enlarged if necessary.

To the best of your ability at this point determine a basic budget and time line for completion of the beds and probable availability for planting. See Appendix E for a sample budget.

Draw a plan of the property that includes things that are already there such as, trees, pathways, any structures, water source and include the boundary of the lot and its dimensions. Add the garden locations, and other planned elements such as: compost bins, storage shed, common area and possibly an area for an orchard.

If you are installing an irrigation system the piping from source to gardens needs to be included in the schematic. Even if the watering will be done by hand with hoses the plan must include hydrant locations in the garden area. These can later be converted to be used for drip irrigation or another method of your choice. State law requires that the irrigation system be installed by a licensed professional.

Building The Beds

The need for raised beds in the El Paso area is the result of various soil issues but mostly related to water retention and adequate drainage. Most food crops do not do well when their roots are standing in water. Eight inches is minimum for raised beds with 12" even better. This depends to some extent on the crops you plan to grow. Deep- rooted vegetables require a deeper soil. Since rotation of crops is a recommended practice it is best to build the beds in a consistent way.

The frames of the beds can be built with concrete blocks that come in several sizes. Some are solid such as the 8"x 8"x 8" and the 4"x 8"x 16". Some gardens use the hollow 8" x 8" x 16" cinder blocks. Both of the latter two blocks are available at larger hardware stores. The blocks cost in the range of \$1-\$1.25 each. Some sources will donate these to non-profit community gardens. Once the size and number of gardens has been determined the number of framing blocks can be calculated. It is best to gather all of the materials needed for the garden build and have them on hand on the designated day. Following are the recommended materials:

- String and stakes for laying out the boundaries of the bed(s).
- Newspapers enough to put down at least 6 layers in the bottom of the beds before the soil is added. This makes it unnecessary to remove any sod and keeps weeds from coming up in the beds. Thick layers of cardboard can also be used.
- Soil get the best available. A good garden soil should contain 1/3 soil, 1/3 compost and 1/3 sand. Do not try to use existing soil in this mix. Calculate the amount of soil needed as follows: length x width in feet x depth in inches divided by 324. This gives the number of cubic yard of soil needed. Example: A 24' x 4' bed that is 8" deep will require 24 ft x 4 ft x 8 ft/324 cu ft/cu yd= 2.37 cubic yards.
- A few tools such as: a tape measure, level, hammer, knives or scissors, garden rakes, shovels, wheelbarrows.
- Step 1 Level the soil that will be under the cement blocks, filling in holes and tamping well and shaving off high spots. A level comes in handy for this.
- Step 2 Using the stakes and string mark off the frames of the beds using the inside dimensions.
- Step 3 Place blocks along one short end first using a level to level the blocks.
- Step 4 Place the blocks for both long sides, adjusting the soil base as necessary to keep the frame level.
- Step 5 Place 6-8 layers of newspaper on the ground completely covering the first 5 feet at the end that has blocks in place. Overlap the newspapers by 6". Lift a corner of the blocks and tuck the paper under by about an inch. You may also need to wet the paper or put some soil on to keep it from blowing away as you work.
- Step 6 Starting at the completed end bring soil in to fill the bed. You can continue to build the frame and lay the papers as you bring in soil from the open end.
- Step 7 When you get near to the open end with newspapers and soil, the end blocks can be laid and the bed filled with soil.

The paths between the beds should be at least 3' wide, wide enough for a wheelbarrow or mower. They can be grass or gravel or they can be covered with cardboard and a thick layer of mulch or leaves.

Fertilizing the Beds

Proper fertilization is an important key to successful vegetable gardening. Vegetables are heavy feeders and nutrients applied to the soil are taken up by the plant and are removed from the site as harvested crops and plant material.

For the initial planting of a bed apply 1-2 pounds of a complete pre-plant fertilizer such as 15-5-10 or 16-6-2 per 100 sf of garden. See Appendix A for an explanation of the different types of fertilizers. Adjust the amount based on the % N in the fertilizer you choose. Mix the fertilizer into the top couple inches of soil.

A new soil may not have enough fertility so plants will need to be watched for signs of poor growth such as yellow or red leaves, and spindly growth; an extra treatment with fertilizer may be necessary. For future plantings, the results of annual soil test will provide the information needed to choose the right amount of the necessary nutrients. You can obtain a soil test kit from your local county Extension office. Crops like corn, squash and the cabbage family are heavy feeders and will need additional fertilizer.

Planting the Beds

Spacing of plants is important for proper growth and ease in harvesting. Seed packets contain important information with respect to spacing and depth for planting. As a general rule a seed should be planted no deeper than 3 times its smallest diameter. Tiny seeds like lettuce, parsley and carrots are planted on top of the ground, partly because they need light to germinate. The soil is moistened, roughened with a rake, the seeds are broadcast and the soil patted down gently and gently sprayed with water again. The seeds, any seeds, must be kept moist until they germinate. Lettuce seeds and others that are broadcast on the surface can be covered with fiber row cover until they germinate to help retain moisture and keep the birds from eating the seeds.

If you are using transplants a handful of slow-release fertilizer in the planting hole will give them a good start. Plants like tomatoes should be planted deep to give the stem a chance to grow more roots and produce a stronger plant. Refer to the books in Appendix B for specific information on planting the crop you are interested in.

- Appendix B is a list of resource books and Internet addresses that will give more detailed information about planting seeds, starting your own transplants and working with fruit trees.
- Appendix C is a guide for Vegetable Garden Planting Dates.
- Appendix D is a list of Vegetable Varieties for El Paso County.
- Appendix E gives plans for making a Grow Light so you can produce stronger plants if you choose to start some of your own transplants.
- Appendix F

Pest Control

This depends on the method you choose to use in your garden . If you choose not to use pesticides and other chemicals one of the best things you can do for your garden is to plant a garden to attract beneficial insects. If the insect population is in balance the good guys will often eat the bad guys. One bed could be dedicated to planting attractants or the plants could be scattered around the garden. Insects are also needed for pollination. Cover crops like red clover, buckwheat, and hairy vetch not only attract beneficial insects they also build the soil in the garden bed by fixing nitrogen if they are legumes.

Some good plants for an insect bed are:

- Salvias and butterfly weed
- Queen Anne's lace
- Lantana
- African Blue Basil(bees)
- Herbs (parsley, dill, fennel, yarrow, cilantro, etc.)

Some of these are self-seeding so you only have to plant them once. If you choose to use stronger methods the first step is to determine the problem before you decide on a solution. You can get information on pest control from the resources in Appendix B or you can call the AgriLife Extension Office at 915-860-2515 or the Master Gardener Hot line 915-566-1276.

Watering the Garden

A consistent source of water is essential to the success of any garden and most especially for a vegetable garden. Seeds need to be kept moist or they will not germinate. Transplants need to be watered in and kept moist until they show new growth. Remember to water the soil, not the plant. Sprinklers are not recommended. They deliver water to the foliage and a lot of the water is lost to evaporation on a hot, windy day. Water on the leaves can cause fungus problems. If the watering is to be done by hand with a hose and wand the workers need to have a watering schedule. Watering in the morning is recommended to give any wet leaves a chance to dry during the day. The schedule needs to be able to deal with our floods and droughts.

A good way to give the garden the water it needs in the best possible manner is through the use of drip irrigation, sometimes called low-volume irrigation, Tubing is run through the garden with emitters placed at intervals to deliver water directly to the soil. Soaker hoses or leaky pipe is another possible method. The equipment needed for drip irrigation is available at local irrigation supply companies and commercial garden centers in the area.

Once the spring garden is planted and the weather begins to warm it is prudent to mulch the beds. Mulching reduces the evaporation of water from the soil, helps to keep the roots cooler and helps to control the weeds. Compost is not mulch. Compost is mixed in with the soil to provide organic material for nutrition and water holding capacity. Mulch is a topical treatment and should not be mixed in with the soil since the presence of undecomposed material will use up nitrogen that the plants need for growth. For adequate protection mulch should be 2-3" deep around, but not covering, the plant stems. The best mulch for a vegetable garden is a few layers of newspaper or cardboard covered with leaf mould. Alfalfa hay is another good choice when leaf mould isn't available. Grassy hay can also be used if you check that no herbicides have been used at the source. Other possibilities include hardwood mulch and pine straw but these tend to break down slowly and may make tilling for the next season difficult. Even worse, if they are tilled in before they are fully decomposed they could rob the soil of valuable nutrients until they are fully decomposed.

Harvesting

It is important to harvest vegetables at the right time to ensure the best taste. Knowing when vegetables are ready to pick is a skill that can be learned over time from experience. For valuable tips on when to harvest, see AH-216: When to Harvest Vegetables at **http://aces.nmsu.edu/pubs/_h/.** For more information on this site and other places to get helpful information see Appendix B - Resources.

Everyday Best Practices

Simple practices, followed daily can prevent many problems. Following is a list of suggested everyday best practices.

- 1. Walk through the garden before you begin work.
- 2. Look for any limp, damaged, discolored or unhealthy looking foliage.
- 3. Check the ground for moisture.
- 4. Review your watering schedule.
- 5. Record amounts of rain.
- 6. Keep a planting diary for each garden plot. (Essential for planning crop rotations)
 - Vegetable and Variety planted
 - Date planted

- Date production starts
- Date production ends
- Yield.
- Comments on quality and quantity
- Recommendations
- Keep a record of fertilizing what and when.
- 7. Label gardens, not everyone can immediately identify a plant.
- 8. Clean tools at the end of the workday.
- 9. Keep ahead of the weeds with mulch, hand pulling or weed barrier where appropriate.
- 10. Keep a record of the garden volunteers and communicate with them about plans for the garden.
- 11. Give garden workers a roster of volunteers so they can communicate with each other.

Leadership

Many of the decisions taken with regard to the management of the garden can be made by discussion with the people doing the work. In order for things to go smoothly and continue in a sustainable manner someone needs to take the lead and make sure that things get done in a timely manner:

- Budgeting and fund-raising See Appendix F
- Planting details what and when
- Ordering and buying of seeds
- Starting transplants
- Checking on supplies such as fertilizers, mulch and insecticides
- Communicating with workers about the work schedule
- Recruiting more volunteers for special projects
- Regular maintenance of the site, such as grass mowing
- Keeping records (see Best Practices above)

Some of these things can be assigned to another garden worker or someone who wants to be involved but cannot do the physical labor involved. A joint leadership is even better since it allows for vacations and other reasons for absence from the garden.

Composting

Composting can be a great way to recycle plant material from your garden as well as some household waste. The end result can be a valuable soil amendment that can improve soil texture and add a little fertility. There are a few things to remember when composting. See H-110: Backyard Composting at **http://aces.nmsu.edu/pubs/_h**/. Information about this site and other useful Internet sites is given in Appendix B - Resources

Tax Status

Should your new garden decide that it would like to become a non-profit organization for financial and indemnification purposes you can find information regarding State of Texas Tax exemptions for Charitable Organizations can be found at

www.window.state.tx.us/taxinfo/exempt.

Information about State and Federal Tax exemptions can be found at <u>http://www.nps.gov/partnerships/model_taxexempt_status.htm</u>

Appendix A - Fertilizers

Complete fertilizers contain, as a general rule, three primary elements: nitrogen (N), Phosphorus (P) usually expressed at P_2O_5 , and potassium (K) usually expressed as potash (K₂O). The analysis will vary depending on the producer and on the plants the fertilizer is targeting. Nitrogen needs to be added to soil on a regular basis since a lot is used by the plant for growth and is lost through volatilization and leaching. Phosphorus and potassium stay around longer in the soil and need to be added less often. Soil pH is an important indicator of nutrients availability for uptake by the plants. Getting a soil test is the best way to determine how much of these nutrients are missing from the soil. Obtain a soil test kit from your local county Extension office or go to http://soiltesting.tamu.edu and click on Soil Submittal form.

Soluble Fertilizers

Soluble fertilizers are formulated to provide nutrients to plants in a form that is readily available for uptake. Thus, they are fast-acting and can be very helpful when a quick fix for a nutrient deficiency is required. Like all fertilizers, if too much is applied they have the potential to burn plant material. They are often the least expensive options as they are generally high in nutrients relative to cost. Nutrients can be applied separately by using product like urea that only contain nitrogen or all together in a complete fertilizer.

Some examples of synthetic fertilizers:

- Scott's Miracle-Gro Flower/Vegetable 15-5-10
- Nitro-Phos Flower and Vegetable 12-24-12. Nitro-Phos is a local company.
- Many other brands are available in a wide variety of nutrient percentages.

Slow Release Fertilizers

Slow release fertilizer are slow acting and are less likely to "burn" plants. Synthetic slow release fertilizers usually consist of fertilizer pellets incased in a coating that degrades over time allowing the fertilizer to be available in measured amounts. Many of these fertilizers can be purchase based on a time frame such as 1 month, 3 month, 6 month etc. These types of fertilizer are some of the easiest to use but can be among the priciest. An alternative to using expensive slow release products is to side dress with small amounts of soluble fertilizer throughout the crop cycle.

Examples of synthetic, slow release fertilizers:

- Osmocote slow-release pellets with varying percentages.
- Slo-Cote similar to Osmocote.
- Sulphur coated urea.

Natural Fertilizers

Natural fertilizers are usually slow release by nature. They can contain products such as blended plant materials, molasses, humates, composted manures, animal and sea products that are sources nutrients. Because these essential nutrients needed for plant growth are bound up in the complex molecules contained in these products, they must be broken down in order to become available to the plants, usually by microbial degradation. This takes time and so they are therefore slow-release. They usually analyze as 5-8% Nitrogen, 1-2% Phosphorus and 2-4% Potassium. This information is shown on the bag or container as N-P-K. Natural fertilizers tend to be more expensive on cost per pound of nutrient content basis because of their relatively low percentage of nutrients.

Remember, growers wishing to market their produce as organic must comply with NOP standards. More information about the NOP program is available at http://www.ams.usda.gov

and click on National Organic Program. These regulations specify that acceptable soil amendments carry the OMRI label. Use of any other soil amendment may invalidate organic certification.

Some examples of granular general purpose natural fertilizers are:

- Microlife [San Jacinto Environmental Brand (6-2-4)]
- Earth Essentials (Southwest Fertilizer Brand (5-1-3)
- Cottonseed meal (6-2-1) Cotton is a highly sprayed crop so caution is advised. Low in micronutrients.

Examples of liquid organic fertilizing materials:

- Kelp Extract Rich in potassium and micronutrients to stimulate root growth. Good as a foliar feed.
- Fish Emulsion usually has about 3% N and 1-2 % P and K. Works well by itself or mixed with other materials such as molasses and kelp extract.
- John's Recipe Liquid fertilizer (Lady Bug Brand) (3-1.5-2) A combination of seaweed extract, fish emulsion, Medina soil activator, humic acid and molasses.

Appendix B Internet and Print Resources

Internet

http://elp.tamu.edu – AgriLife Extension in El Paso County website provide publications on a wide variety of topics including vegetable gardening information specific to El Paso County including:

- Vegetable Planting Calendar for El Paso County
- Vegetable Varieties for El Paso County

http://aggie-horticulture.tamu.edu/lawn_garden/veg.html – Aggie Horticulture is an extensive web resource for gardeners. The vegetable gardening section includes but is not limited to:

- Vegetable Variety Selector
- Easy Gardening Series of fact sheets on individual vegetables
- Harvest and Storage
- Texas Home Vegetable Gardening Guide

http://soiltesting.tamu.edu – Texas A&M soil testing information. Click on Soil Submittal Form.

http://insects.tamu.edu – Find answers to home and garden insect questions from the Texas A&M Department of Entomology

- http://www.urbanharvest.org Urban Harvest is a local non-profit that provides access to information on existing community gardens, their location, working hours and often a contact name or number. Also links to a hot line for questions.
- **http://www.ams.usda.gov** USDA Agricultural Marketing Service. Include links to the National Organic Program for organic certification.
- http://www.soil.ncsu.edu/publications/Soilfacts/AG-439-18/ A great publication called Nutrient Content of Fertilizer and Organic Materials that contains lists of all kinds of natural and synthetic products and their nutrient content.

http://edis.ifas.ufl.edu/topic_organic_gardening - University of Florida IFAS

Extension organic gardening publications.

- Organic Vegetable Gardening
- Producing Garden Vegetables with Organic Soil Amendments

http://aces.nmsu.edu/pubs/_h/ – New Mexico State University College of Agricultural, Consumer and Environmental Sciences.

- H-110: Backyard Composting
- H-216: When to Harvest Vegetables
- H-150: Organic Gardening--Natural Insecticides

Text

- Commonsense Vegetable Gardening for The South. William D. Adams and Thomas LeRoy. Taylor Publishing, 1995.
- The Southern Kitchen Garden. William D. Adams and Thomas R. LeRoy. Taylor Publishing, 2006.
- Year Round Vegetables, Fruits and Flowers for Metro Houston. Bob Randall Ph.D. Year Round Gardening Press, 2005.
- Garden Answers. Fern Marshall Bradley, ed. Rodale Press, 1995.
- Successful Organic Gardening. Patricia S. Michalak and Cass Peterson. Rodale Press, 1993.

Burpee Seed Starter. Maureen Heffernan. MacMillan, 1997.

Plant Propagation. Alan Toogood ed. American Horticultural Society, DK Publishing, Inc., 1999.

APPENDIX C





HOME VEGETABLE GARDENING PLANTING CALENDAR FOR EL PASO COUNTY

Adapted from USDA Home and Garden Bulletin No 202, "Growing Vegetables" data and El Paso frost free dates from April 1 - Nov. 10.

	VERY EARLY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
	Cabbage ²												
	Kale												
Α	Lettuce ³				and survey					12			
Α	Onion (Seed)												
Α	Onion (Plants, Sets)												
Α	Peas, Green								-	and the second			
	Potato							Although the state	and a state				
Α	Radish										the second second		
Α	Spinach							Statistics.			niger and		
Α	Turnip			The second for									

a a'	EARLY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
	Celery				The second								
Α	Beets												
	Broccoli									and the second s			
	Brussel Sprouts												
Α	Carrot				- The The								
	Chard				し、雪白谷				Sand Sand				
	Collard			- Contraction									
Α	Kohlrabi							()-1					
	Mustard								Carl Start Start				
			-					FAL	L GARDEN		•		<u>.</u>

MEDIUM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
Beans, Snap												
Corn, Sweet												

		HON	IE VEGET	ABLE GARI	DENING P	LANTING	CALENDA	R FOR EL F	ASO COU	NTY			
	LATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
	Beans, Lima												
В	Cucumber												
	Eggplant ⁴								Î				
	Muskmelon							1					
В	Okra												
	Peas, Southern												
	Pepper ⁵					PERMIT		Service Service					
	Soybean												
В	Tomato ⁶												
В	Squash, Summer												
В	Squash, Winder												
	Sweet Potato						Conte-						
В	Watermellon		12										
	÷			•				FAL	L GARDEN	-	-		

Α	Halfwidth (double rows) 12"-14" apart						
В	Double width (skip rows) t" apart. All others regular 36" apart including tomato in wire cages.						
2	For cabbage plants, plant seed indoors December 30.						
3	For lettuce plants, plant seed indoors January 10.						
4	For eggplant plants, plant seed indoors in February.						
5	For pepper plants, plant seed indoors March 1.						
6	For tomato plants, plant seed indoors March 1.						
To esc	To escape risk with cucumber, eggplant, muskmelon, tomato, squash and watermelon, use hotkaps or delay planting two weeks.						
Note:	Note: Crops usually do best when planted in the earlier part of each period shown. Spring planted tomato, eggplant and okra usually bear until frost.						

Educational programs of the Texas AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age, or national origin. The Texas A&M University System, U.S. Department 0f Agriculture and the County Commissioners Courts of Texas Cooperative Extension Service





HOME VEGETABLE VARIETIES FOR EL PASO COUNTY

BY BILL HODGE AND BILL MEAD TEXAS AGRILIFE EXTENSION SERVICE EL PASO COUNTY MASTER GARDENERS MARCH, 2010

VEGETABLE KIND	VARIETY
Asparagus	UC157 and Jersey Giant
Bean, field dry	Dwarf horticultural, Pinto, Idaho 114
Bean, bush	Contender, and Topcrop
Bean, yellow	Improved Golden Wax
Bean, Pole Snap	Blue Lake and Kentucky Wonder
Bean, Bush, Lima	Henderson Bush
Bean, Pole, Lima	Florida Speckled,
Beets	Ruby Queen and Detroit Dark Red
Broccoli	Gypsy
Brussels Sprouts	
Cabbage, Chinese	Joi choi, Pac choi, Brisk Green
Cantaloupe (Muskmelon)	Ambrosia
Carrots, Fresh	Danvers 126
Carrots, Baby	Short and SAweet
Celery	Utah 52-70
Chard (Swiss)	Fordhook Giant, Lucullus, Rhubarb Chard, Ruby Red
Chives	Chinese (Allium shoenoprasum), and Chives, garlic
	(Allium tuberosum)
Collards	Georgia Southern, Champion
Corn, Sweet	Kandy Korn, Tendertreat
Corn, Sweet, White	Silver Queen
Cucumber, Slicing	Sweet Slice, and Sweet Success, and *Lemon
Dill	Bouquet and Mammoth
Eggplant	Black Magic, Purple Rain
Eggplant, Oriental	*Ichiban, Pingtung long
Endive, Broad Leaf,	Florida Deep Heart
Endive, Curly Leaf	Green Curled and Salad Green
Garlic	Elephant, *Silver Rose
Horseradish	Maliner Kern
Kale	Rebor
Kohlrabi	Early White Vienna
Leek	American Flag
Lettuce Leaf	Buttercrunch, Paris Island, and *Romaine
Lettuce, Head	Iceberg and Ruby and *Salad Bowl
Lettuce, Head	iceberg and Kuby and "Salad Bowl

Educational programs of the Texas AgriLife Extension Service are open toall people without regard to race, color, sex, disability, religion, age, ornational origin. The Texas A&M University System, U.S. Department of Agriculture and the County Commissioners Courts of Texas Cooperative Extension Service

Appendix D-- continued

VEGETABLE KIND

VARIETY

Mustard	Southern Giant Curled
New Zealand Spinach	
Okra	Emerald, Simpson Spineless and Lee
Onion, Bulbing	*TAMU Supersweet (1015Y), White Granex, Yellow Granex
Onion, Bunching (Scallions)	Evergreen, Crystal wax
Parsley	Plain Italian
Parsnip	Hollow Crown
Peas, English	Green Arrow
Peas, Edible Pods	Dwarf Grey Sugar and Sugar Snap
Pepper, Sweet	*California Wonder, Big Bertha, Sweet Banana
Peppers, Hot	Hungarian Wax,* Long Red Slim Cayenne,
	*Mild Jalapeno, *Serrano, Habanero
Potatoes	*Red LaSoda, and *Kennebec
Pumpkin	Jack O'Lantern, Small Sugar and Big Max
Radish	White Icicle and and Cherry Belle
Rutabaga	American Purple Top
Southern or Cowpeas	California #5, Crowder, Mississippi Silver, Pink Eye Purple Hull
Spinach	*Baby's leaf, Melody
Squash, Summer, Yellow	*Early Prolific Sunray (Straight neck), Early Summer Crookneck
Squash, Summer, Green	Acom
Squash, Summer, White	Patty Pan and St Pat Acallop
Squash, Winter	Table Ace, Butternut, and Vegetable Spaghetti
Squash, Zucchini, Green	Fordhook and Green Whopper II
Squash, Zucchini, Yellow	*Gold Rush
Sweet Potato	Centennial, Jewel
Tomato, Large Fruit	*Celebrity,* Better Boy,* Early Girl,* Heat Wave,* Beefsteak,
	* Big Boy, Roma, *Viva Italia
Tomato, Small Fruit	*Porter Improved,* Red Cherry,
Tomato, Small Fruit Yellow	*Yellow Pear
Turnip	*Purple Top White Globe
Watermelon	Crimson Sweet Mirage, Jubilee

* Denotes those vegetables grown by Master Gardeners at Vegetable Demonstration Garden Home Vegetables For El Paso County publication --Revised: March 2010

GARDENING FACT SHEET



Texas AgriLife Extension Service

3033 Bear Creek Drive, Houston, Texas 77084

Do-It-Yourself Grow Light

Jean A. Fefer, Ph.D. Harris County Master Gardener

f you run out of window sills in the spring when your seedlings need as much sun as they can get, you might like to consider building a grow light. Unless you are very fortunate, most houses don't have a window sill that gives enough consistent light to do the job.

It's easy to put some PVC pipe together to make a stand from which to hang shop lights. The diagram on the next page shows the dimensions of the stand. To construct it you will need:

Ap	proximately 32 feet of PVC pipe, 3/4-inch i.d.	\$10.00
8	90° elbow PVC connectors, 3/4-inch	2.40
4	T-shaped PVC connectors, 3/4-inch	1.92
2	48-inch shop lights	20.00
4	lengths of chain for hanging fixture	

- 8 S-hooks for attaching chain to stand and fixture
- 4 short pieces of wire to attach S-hooks to top bar of stand
- 4 fluorescent tubes, 4 feet long 12.00

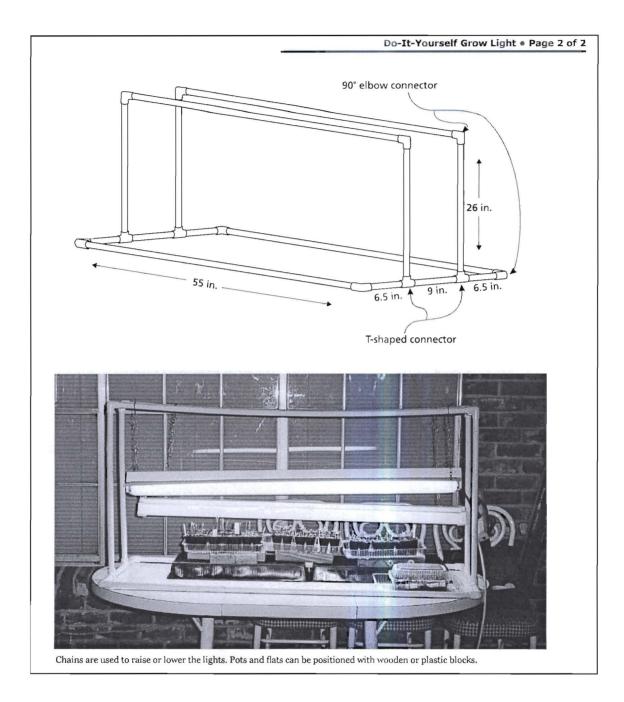
[Total ca. \$45; prices from Lowe's]

Regular fluorescent tubes do as well for growing-on seedings as the fluorescent tubes marketed and sold as gro-lites. The regular fluorescent tubes will need to be replaced about every six months because some important wavelengths are lost as the tubes age. If you use a warm and a cool fluorescent tube in the lamps, it will give just the right combination of heat and light for most plants. The warm white 40-watt tubes are \$7 for two tubes, cool white tubes are \$5 for two.

In case you don't have an unused kitchen table on hand, this setup could also be supported on top of a discarded door placed on a pair of carpenter's horses. The footprint of the stand shown in the diagram and photograph is 22 x 55 inches.

Hanging the shoplights from chains will allow you to raise and lower the lights to keep them very close to the plants as they grow. Lights should be no more than 2 inches above the top leaves. Since the plants will "reach for the light," they will get tall and leggy if they don't get enough.

Connecting the lights to a timer will allow you to provide light for 12–14 hours per day, which is what the plants need as they grow. Once the seeds have germinated, the seedlings will do better if the growing-on temperature is lower than the germination temperature.





Improving Lives. Improving Texas.

Extension programs serve people of all ages regardless of socioeconomic level, race, color, sex, religion, disability or national origin. The Texas A&M University System, U.S. Department of Agriculture and the County Commissioners Courts of Texas cooperating.

Appendix F Sample Budget

	Year 1	Year 2	Year 3
Income	AR REF. LAN		
Plot Fees (allotment)			
Grants			
Donations			
Fundraising	a star		
Balance forward -			
Total Income			
Expenses			
Water hydrant installation			
Water bill			
Electricity			
Storage shed			
Lease			
Liability Insurance			
Tools			
Raised beds			
Seeds, pots, potting soil	A the second		
Transplants			
Cages, trellises, row cover			
Compost			
Mulch			
Fertilizer			
Fencing			
Garden Sign			
Irrigation materials			
Hoses			
Pest control			
Miscellaneous	1.1.2.		
Total Expenses			
Net Income			