



**CAPITAL AREA  
FOOD BANK  
OF TEXAS**

# STARTING A SQUARE FOOT GARDEN

## Preparation

- Gather tools and materials: see materials check list.
- Cutting:
  - Measure twice, cut once
  - Home Depot or another hardware store can cut both the wood planks and the metal pipes for you
- Select a site with:
  - Access to a lot of sunlight – at least 6 hours or more and face the bed South
  - Fairly level terrain, although beds can be altered to fit on slopes
  - Good drainage
  - Easy access to water – either a hose or rain barrel
  - Enough room for future expansion (if possible)

## Putting the Beds Together

- Pre-drill three holes at one end of each board.
- Line up your boards so the non-drilled ends of each board butts up against the drilled holes of another board.
  - You can use angle brackets to help hold the boards at 90 degree angles
- Use a drill to screw the boards together.
- If you want a bottom to your bed (for concrete surfaces or elevated on a table):
  - Cut 5/8" or 3/4" plywood sheet to a 4' x 4' dimension
  - Screw or nail the plywood to your bed
  - Drill 1/4" drainage holes - drill one per square foot, as well as one in each corner of every square foot
- Alternative bed materials: Vinyl or Plastic boards.



## Preparing the Site

- Cardboard Bedding (to kill weeds and Bermuda grass)
  - Wet the ground thoroughly with a hose or buckets of water
  - Wet cardboard
  - Place compostable kitchen scraps on the ground of selected area (optional)
  - Place wet cardboard on top of kitchen scraps
  - Place bed frame on top of cardboard
- Leveling
  - Use a level to see what sides of the bed need to be leveled
  - Gather wood scraps or sizable rocks to use to prop up the beds
  - Repeat process until beds are level
- Place mulch around beds, a few inches thick to prevent weeds from taking root.



## Preparing the Soil

- Soil type and nutrient level is important for healthy plant growth. You can have your soil tested by the Travis County Cooperative Extension Office (854-9600) to make sure that you do not imbalance the nutrient levels.
- Amending soil: If you do need to amend your soil, contact local nurseries for advice. Usually mixing in some compost works well.
- Purchase premixed nutrient rich soil for an easier way to start your garden, especially since a square-foot garden is a raised bed garden. (See the Garden Shopping List for a list of local stores that sell high-quality gardening soil.)

Soil in the beds and mulch around the beds:



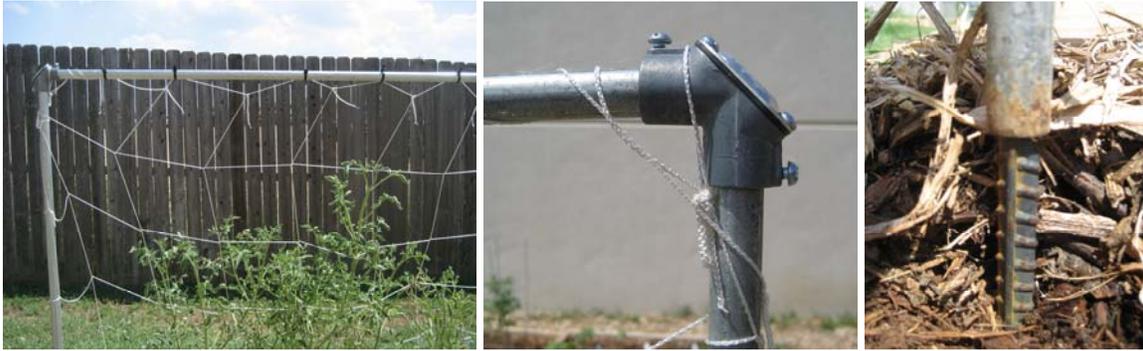
## Making the Grids

- Make sure you have added your soil first – fill beds almost to the top.
- Use measuring tape/ruler and a pencil to mark out 1-foot intervals along each side of bed.
- Option 1:
  - Hammer nails at each mark
  - Stretch string or twine across the bed, and tie it to the nails on each side
  - You can also use a staple gun to attach the twine
- Option 2:
  - You can use any flat materials such as the plastic strips from blinds, or wooden lath boards
  - Either nail them to the beds, or use a staple gun



## Making a Trellis

- A trellis is used for vertical gardening. It provides support for vine plants such as tomatoes, melons, cucumbers and squash.
- Building process:
  - Gather 3 pre-cut electrical conduit pipes, about 5 feet long. Use one of the bars to measure out the spacing of the steel reinforcing bars on the ground.
  - This should be done on the north side of the garden bed, so that shade is not cast on the rest of the garden
  - Hammer the steel reinforcing bars about half way into the ground
  - Slide the electrical conduit pipes over the steel reinforcing bars. The pipes should fit snugly and might require a bit of force to slip on.
  - Connect the third electrical conduit pipe to the two vertical pipes with the elbow connectors and tighten the screws
  - Attach netting to the structure
- You can also experiment with wood structures instead of metal.



## Planning and Planting

- If you are a first time gardener, start small. There is a lot to learn about gardening and your first attempt will be more successful if you focus your energy on a smaller plot.
- Decide what to plant in your garden based on the planting season: spring, summer, fall, or winter (see Planting Matrix and Resources page).
- You might want to consider companion planting when picking out plants. This method can provide a natural pest control and other benefits (find out more about companion planting from the Resources page).
- The average expected harvest is also an important factor as is the harvesting period. You might want to stagger your plants so that you don't harvest everything at the same time. (For specific information, see Resources page)
- Once you have picked out your plants, decide which ones to plant in which squares based on their height. Since you don't want the taller plants to shade the rest of the garden, plant them in the northern most row.
- You also have to plan out the plant spacing within each square (refer to Planting Spacing page at the end of this document):
  - Extra large plants such as broccoli, cabbage, or bell peppers, should be spaced 12 inches apart, or 1 plant per square
  - Large plants such as swiss chard, marigolds, or strawberries, should be spaced 6 inches apart, or 4 plants per square
  - Medium plants such as spinach, bush beans, or beets, should be spaced 4 inches apart, or 9 plants per square
  - Small plants such as carrots, radishes, or onions, should be spaced 3 inches apart, or 16 plants per square
- If there is still a threat of frost outside, you can begin to germinate seeds indoors
- There is also the option to buy transplants from a local nursery.
- If planting seeds directly into the ground, you should soak seeds for about a half an hour before planting, this helps the germination process to begin.
- Plant seeds about 2 to 4 times the depth of their width, usually about ½-1 inch depth. (See Resources page for more precise guidelines)
- Once seeds have sprouted, add mulch to keep moisture from evaporating from the soil. (Although dry mulch can soak up a lot of water, so beds may require longer watering times.)



## Watering, Maintenance and Harvesting

- **Water:** To check if the garden needs water, stick your index finger in the ground, up to the second knuckle. If you do not sense any moisture, it's time to water.
  - For good root growth, deeper, less frequent watering provides the best results. Water garden thoroughly, at the base of each plant every 2-3 days.
  - It is best to water in the early morning, allowing moisture on the leaves to evaporate, which prevents disease and pest infestation.
  - Rainwater is best to use, but tap water also works.
- **Soil:** Aerate or cultivate soil. Roots need air to grow, so once a week, use a fork or any other cultivator to loosen the soil. Plants don't like compacted soil.
- **Protection:** As your plants begin to bear fruit, you might want to put up some chicken wire fencing to prevent wild animals from snacking on your crop.
- **Pests:** As you water, check for any damage to plant leaves or strange insects. If pests are found, it is best to use organic methods such as seaweed spray instead of harsh chemicals. Prevention is also key for pest control. Prevention strategies include companion planting and maintaining healthy soil.
- **Replanting:** After you have harvested a square and it is no longer producing, remove the plant and any remaining debris such as leaves or roots from the square.
  - Add a trowel of compost into that square to replenish the nutrient level
  - Turn the soil over, mixing the compost within
  - Now you are ready to plant your next crop!

Cultivating, watering, and pruning:



# PLANT SPACING

## Extra Large

1 Plant

Placed 12 inches apart:

Broccoli

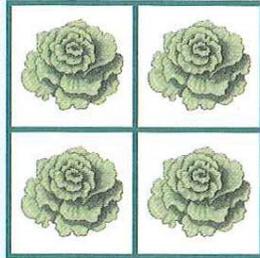


## Large

4 Plants

Placed 6 inches apart:

Leaf Lettuce

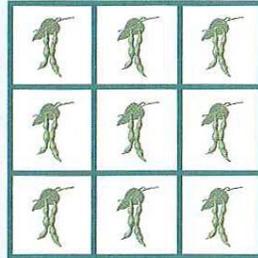


## Medium

9 Plants

Placed 4 inches apart:

Bush Bean

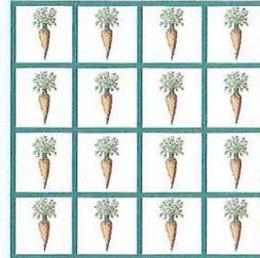


## Small

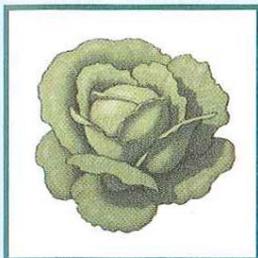
16 Plants

Placed 3 inches apart:

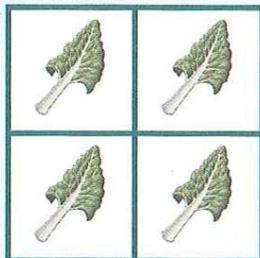
Carrot



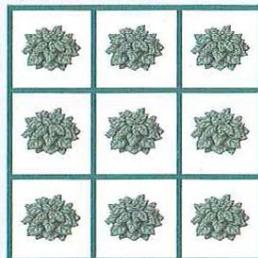
Cabbage



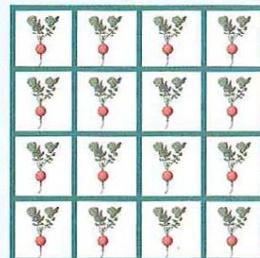
Swiss Chard



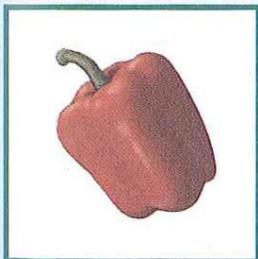
Spinach



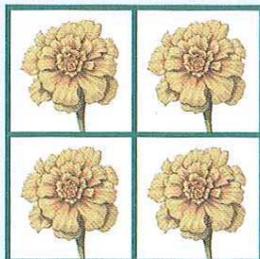
Radish



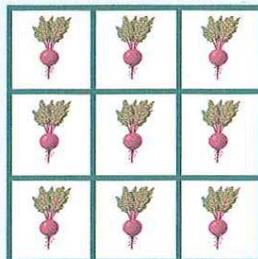
Pepper



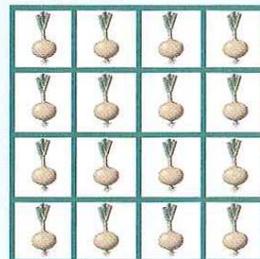
Marigold



Beet



Onion



Source: All New Square Food Gardening: Grow More in Less Space!  
by Mel Bartholomew. Copyright 2005. For educational use only.

# Planting Reference Matrix

Plant Name	Height	Spacing	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Asparagus (crown)	4-6 ft	1 or 4	█											
Basil (transplant) * Large	1-2 ft	1		█	█	█	█	█	█	█	█	█	█	█
BUSH Beans, Snap & Lima (seed)	12-18 in	9			█	█	█	█	█	█	█	█	█	█
SMALL Beets (seed)	12 in	16			█	█	█	█	█	█	█	█	█	█
Broccoli (transplant)	18-24 in	1		█	█	█	█	█	█	█	█	█	█	█
Cabbage (transplant)	12-18 in	1		█	█	█	█	█	█	█	█	█	█	█
Carrots (seed)	12 in	16			█	█	█	█	█	█	█	█	█	█
Cauliflower (transplant)	18-24 in	1		█	█	█	█	█	█	█	█	█	█	█
Chard, Swiss (seed)	12-18 in	4			█	█	█	█	█	█	█	█	█	█
Cilantro	1-2 ft	1			█	█	█	█	█	█	█	█	█	█
Collards (transplant)	6-12 in	1			█	█	█	█	█	█	█	█	█	█
BUSH Cucumber (seed)	6-12 in	1 (per four sqs)			█	█	█	█	█	█	█	█	█	█
Eggplant (transplant)	24-30 in	1			█	█	█	█	█	█	█	█	█	█
Garlic (seed) * Not Elephant	12-18 in	9 or 16			█	█	█	█	█	█	█	█	█	█
Leeks (transplant)	12 in	9		█	█	█	█	█	█	█	█	█	█	█
Lettuce (seed)	6-12 in	4		█	█	█	█	█	█	█	█	█	█	█
Okra (seed)	18-24 in	1			█	█	█	█	█	█	█	█	█	█
Onion, bulbing (transplant)	12 in	16			█	█	█	█	█	█	█	█	█	█
Oregano	1-2 ft	1			█	█	█	█	█	█	█	█	█	█
Parsley (transplant)	6-12 in	4			█	█	█	█	█	█	█	█	█	█
Peas, English, Snap & Snow (seed)	vine	8*			█	█	█	█	█	█	█	█	█	█
Peas, Southern (seed)	vine	8*			█	█	█	█	█	█	█	█	█	█
Pepper (transplant)	12-24 in	1			█	█	█	█	█	█	█	█	█	█
Potato, Irish (seed)	12-24 in	4			█	█	█	█	█	█	█	█	█	█
Potato, Sweet (slip)	12-24 in	4			█	█	█	█	█	█	█	█	█	█
Radish (seed)	6-12 in	16			█	█	█	█	█	█	█	█	█	█
Shallots (seed)	12-18 in	16			█	█	█	█	█	█	█	█	█	█
Spinach (seed)	6-12 in	9			█	█	█	█	█	█	█	█	█	█
VINE Squash, Summer (seed)	vine	1 (per two sqs)			█	█	█	█	█	█	█	█	█	█
Squash, Winter (seed)	vine	1 (per two sqs)			█	█	█	█	█	█	█	█	█	█
Tomatoes (transplant)	vine	1			█	█	█	█	█	█	█	█	█	█
Turnip (seed)	6-12 in	9			█	█	█	█	█	█	█	█	█	█

◀ marginal planting time      █ optimal time to plant outdoors

\* Few plants have a spacing of 8 per square foot.





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## SQUARE FOOT GARDENING SUPPLIES & SHOPPING LIST

### For the Garden Bed:

- 2 8 ft. long 2x8 or 2x10 untreated wood boards, cut in half
- 12 Nails (to mark off square feet)
- 24 feet of twine (to mark off square feet)
- 25 square feet (5' x 5') of cardboard or weed cloth (to lay on the bottom)
- 1 4' x 4' piece of plywood 3/4" thickness for bed bottom (optional)
- 1 Power Drill
- 1 Box of wood screws
- 1 Tape measure or ruler
- 1 Level

### For the Garden:

- Seeds & Starter Plants
- Mulch (1/2 Cubic Yard) to place on and around garden bed
- Quality vegetable soil (10-11 Cubic Ft. = about .4 Cubic Yard)
  - 1/3 Peat Moss
  - 1/3 Vermiculite
  - 1/3 Blended Compost
- Shovel, trowel, cultivator (optional)
- Watering can (or a hose, small cup/bucket, milk jug, etc.)

\* Please see below for stores to buy soil mixes from.

### For a Garden Trellis:

- 2 Electrical conduit steel pipes - 1/2 inch diameter, 10' long, cut in half (you will have one 5' segment left over)
- 2 18-24 inch steel reinforcement rods
- 2 Elbow connectors for 1/2 inch pipes
- Netting (16-25 square feet)
- Ties to attach netting to metal structure

\* Stores that have quality premixed soil in Austin, TX:

The Natural Gardener, 8648 Old Bee Caves Rd, Austin, TX 78735  
The Great Outdoors, 2730 S Congress Ave, Austin, TX 78704  
Texas Organic Products, call 512-421-1300 for store locations  
Geo-Growers, 12002 Highway 290 West, Austin, TX 78737  
Geo-Growers also deliver; call (512) 892-2722 for the soil yard.



# SQUARE FOOT & GENERAL GARDENING RESOURCES

## Books:

- Bartholomew, Mel. All New Square Foot Gardening: Grow More in Less Space! Nashville, Tenn: Cool Springs Press, 2006.
- McGee, Rose Marie Nichols, and Maggie Stuckey. McGee & Stuckey's the Bountiful Container : a Container Garden of Vegetables, Herbs, Fruits and Edible Flowers. New York: Workman Pub, 2002.
- Albert, Stephen. The Kitchen Garden Grower's Guide: A Practical Vegetable and Herb Garden Encyclopedia. [S.I.]: HarvestToTable.Com, 2008.
- Riotte, Louise. Carrots Love Tomatoes: Secrets of Companion Planting for Successful Gardening. Pownal, Vt: Storey Pub, 1998.
- Cunningham, Sally Jean. Great Garden Companions: A Companion-Planting System for a Beautiful, Chemical-Free Vegetable Garden. Rodale Press, Inc., 1998.
- Jeavons, John. How to Grow More Vegetables: (and Fruits, Nuts, Berries, Grains, and Other Crops) Than You Ever Thought Possible on Less Land Than You Can Imagine. Berkeley, Calif: Ten Speed, 2006.

## Texas Specific Books:

- Garrett, Howard, and Malcolm Beck. Texas Organic Vegetable Gardening: The Total Guide to Growing Vegetables, Fruits, Herbs, and Other Edible Plants the Natural Way. Houston, TX: Gulf Pub, 1999.
- Leeper, Dolores Svoboda. Garden Guide for Austin & Vicinity. Austin, TX: Travis County Master Gardener Association, 2008.
- Cotner, Sam. The Vegetable Book: A Texan's Guide to Gardening. Waco, TX. : TG Press, 1996.

## Online:

- The Official Square Foot Gardening Website:
  - <http://www.squarefootgardening.com/>
- Step-by-step instructions on building your square foot garden, garden plans, companion plants, plus much more about gardening in general:
  - [http://organicgarden.org.uk/?page\\_id=1648](http://organicgarden.org.uk/?page_id=1648)
- Information on designing, building, planting, and growing your garden:
  - <http://www.mysquarefootgarden.net/plant-spacing/>
- More on how to start your square foot garden:

- [http://howto.wired.com/wiki/Build\\_a\\_Square\\_Foot\\_Garden](http://howto.wired.com/wiki/Build_a_Square_Foot_Garden)
  - [http://journeytoforever.org/garden\\_sqft.html](http://journeytoforever.org/garden_sqft.html)
- Many useful resources, including a “Beginner’s Guide to Vegetable Gardening”:
  - <http://timssquarefootgarden.com/>
- Square Foot Gardening and Container Gardening Forums:
  - <http://forums.gardenweb.com/forums/sqfoot/>
  - <http://forums2.gardenweb.com/forums/contain/>
- Texas A&M AgriLife Extension
  - Guide to Indoor Container Gardening: <http://aggie-horticulture.tamu.edu/extension/container/container.html>
  - General information on home gardening, including Growing Guides: <http://aggie-horticulture.tamu.edu/extension/TCEHomeVegFruitNut.html>
- Travis County Master Gardener Association offers a Help Desk that you can call with your gardening questions. They also provide useful growing guides and calendars:
  - <http://www.tcmastergardeners.org/>
- Great source for information on vegetable varieties and their growing requirements, click on Growing Guide:
  - <http://vegvariety.cce.cornell.edu/>
- List of Companion Plants:
  - [http://attra.ncat.org/new\\_pubs/attra-pub/complant.html?id=Texas](http://attra.ncat.org/new_pubs/attra-pub/complant.html?id=Texas)
  - [http://en.wikipedia.org/wiki/List\\_of\\_companion\\_plants](http://en.wikipedia.org/wiki/List_of_companion_plants)
  - <http://www.companionplanting.net/ListofCompanionPlants.html>

## TV and Radio:

- Central Texas Gardener
  - KLRU TV - Hours: Saturday 12 p.m., Sunday 8 a.m.
  - KLRU 2 - Hours: Saturday 9 p.m., Wednesday 10 a.m.
  - KLRU G - Hours: Saturday & Sunday 6:30 a.m., Tuesday 6:30 p.m., Wednesday 8:30 p.m.
  - KNCT (Killeen) - Hours: Saturday 1:30 p.m., Sunday 5:30 p.m.
  - KWBU (Waco) - Hours: Saturday 3 p.m., Tuesday 2 p.m.
  - KAMU (College Station) - Hours: Saturday 3 p.m., Thursday 10:30 p.m.
- Gardening with Skip
  - Check out the Archive of TV segments: <http://gardeningwithskip.tamu.edu/>
- Gardening Naturally (<http://www.590klbj.com/hosts-local/Story.aspx?ID=1017578>)
  - KLBJ-AM radio call-in
  - Hours: Saturday 9-11 a.m. Sunday 8-10 a.m.
- The Greenthumb Hour with Tom Spencer (<http://www.590klbj.com/hosts-local/Story.aspx?ID=1017576>)
  - KLBJ-AM radio call-in
  - Hours: Saturday 8-9 a.m.
- Victory Garden
  - You can watch videos online, or click on Broadcast Schedule to find listings in your area: <http://www.pbs.org/wgbh/victorygarden/watch/index.html>

## Local Organizations:

- Need help setting up your garden? Contact any of the following local organizations that can provide volunteers, materials and guidance:
  - Green Corn Project
    - <http://greencornproject.org/gc/>
    - Green Corn Project  
P.O. Box 49468  
Austin, Texas 78765
    - 512-249-3171
  - Citizen Gardener
    - <http://citizengardener.ning.com/>
- Community Gardens:
  - Planning your garden to be open to others in your neighborhood? Want to have a plot in an existing community garden? Contact the Austin Community Garden Network: <http://communitygardensaustin.org/>
- The Sustainable Food Center
  - This center provides “opportunities for individuals to make healthy food choices and to participate in a vibrant local food system.”
  - The “Grow Local” section of their website is particularly helpful if you plan to start your own garden:
    - [http://www.sustainablefoodcenter.org/GL\\_overview.html](http://www.sustainablefoodcenter.org/GL_overview.html)
    - Sustainable Food Center  
1106 Clayton Lane  
Suite 480W  
Austin, Texas 78723
    - 512-236-0074
- The Natural Gardener
  - This is more than a store; it’s an organic gardening headquarters. You can request to tour their square foot gardens and ask them for advice about starting your own. They also have a lot of information about seeds, soil and more.
    - <http://www.naturalgardeneraustin.com/>
    - 8648 Old Bee Cave Road  
Austin, Texas 78735
    - 512-288-6113
- Other Gardening Stores and Nurseries
  - There are so many to choose from. To find one in your area, do a web search or look through a phone book. For those in Travis County, visit:
    - [http://aggie-horticulture.tamu.edu/travis/r\\_garden.htm](http://aggie-horticulture.tamu.edu/travis/r_garden.htm)
- Capital Area Food Bank of Texas
  - Please contact us:
    - <http://www.austinfoodbank.org>
    - 8201 S. Congress Ave  
Austin, Texas 78745
    - 512-282-2111



# GARDEN WORKDAY SCHEDULE & SIGN UP

**8:30-10 a.m. – GO TO GARDENING STORE OR PLANT NURSERY**, to purchase seeds and plants. There is a supply list ready for the volunteers.

- 1.
- 2.
- 3.

**8:30-9:30 a.m. – PUTTING THE BEDS TOGETHER.** While some people are shopping for plants, others can split into teams and do the following steps:

- 1-Select 4 boards; make sure they are the correct dimensions and orient them properly.
- 2-Drill three small holes at one end of each board so that screws can go in easily.
- 3-Screw boards together to form a square. (Angle brackets or wood bracing can be used to give extra support.)
- 4-Optionally add a plywood bottom to some beds and drill holes in them for drainage.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

**9:30-10 a.m. – PREPARING THE GROUND.** Before placing the beds on the garden site, some prep work must be done to the ground:

- 1-Thoroughly wet the ground where you're placing the beds with a hose.
- 2-Spread out old produce over the ground (turns into compost).
- 3-Place layers of cardboard over produce and then wet them thoroughly with the hose.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

**10-11 a.m. – LAYING OUT THE BEDS.** At this time, the garden beds, bins of soil and mulch will be brought out to the site. Teams will measure the aisle spacing between beds (about 4 ft.) and use a level to balance out the beds. People can gather scrap wood or rocks that can be wedged underneath the beds for leveling. After beds are in place, hammer in nails spaced out in 1 ft. intervals along the top perimeter of the beds. Leave the nails sticking out a bit, since later twine will be tied to them to make the grids. (Don't tie the twine until the dirt is poured in!)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

**11-12 p.m. – DIRT AND MULCH TIME.** Use shovels, buckets and wheel barrows to load in the dirt and transport it to each bed. After each bed is full of soil, spread out the mulch in between the beds and along the perimeters. Then, make the grids with the twine.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Take a break for lunch! It's planting time in the afternoon. Volunteers will also water the beds for the first time. Since we want to give every volunteer, client, and donor a chance to be involved, we will spread out the planting schedule. Come out and be a part of our first garden!

**1-2 p.m. Plant Beds**

- 1.
- 2.
- 3.
- 4.

Thank you for your participation and support!